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H. J. Perry.

BRITISH ENTOMOLOGY;  
BEING  
ILLUSTRATIONS AND DESCRIPTIONS  
OF  
THE GENERA OF INSECTS

FOUND IN  
GREAT BRITAIN AND IRELAND:

CONTAINING  
**Coloured Figures from Nature**

OF THE MOST RARE AND BEAUTIFUL SPECIES, AND IN  
MANY INSTANCES OF THE PLANTS UPON WHICH  
THEY ARE FOUND.

BY  
JOHN CURTIS,

FELLOW OF THE LINNEAN SOCIETY.

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VOL. IV.

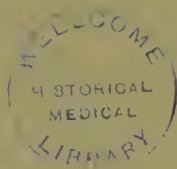
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1827.



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TO  
THE REV. JOHN STEVENS HENSLOW, M.A. F.L.S. &c.  
PROFESSOR OF BOTANY AT CAMBRIDGE,  
TO WHOSE FRIENDSHIP  
THE AUTHOR  
OWES MANY AND IMPORTANT OBLIGATIONS,  
AS WELL FOR HIS VALUABLE BOTANICAL CONTRIBUTIONS,  
AS FOR THE ZEAL HE HAS UNIFORMLY MANIFESTED  
TOWARDS THE ADVANCEMENT OF  
BRITISH ENTOMOLOGY,  
*THIS VOLUME*  
IS INSCRIBED,  
AS A SINCERE TESTIMONY OF RESPECT AND ESTEEM.

London, Dec. 1, 1827.





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ERRATA AND ADDENDA.

Folio. Line.

- \* 99a 31 for flavo-maculatus read flavo-scutellatus.
- 134a It is probable that Mons. Latreille's genus *Asindulum* is the *Gnoriste* of Meigen, in which case it will come near to *Platyura*, and we must acknowledge and correct our error: but the figure in the genera *Crustaceorum*, &c. leaves us still in doubt; for the nervures of the wings, the form of the tarsi, and the length of the claws, are by no means analogous to the *Tipulidæ*.
- 137a *Odynerus spinipes* is Mr. Kirby's genus *Epipone*; and we suspect that Panzer's figure of *O. parietina* is the female. No. 10 is probably the female of No. 15.
- 150 *Neides elegans*. Upon examining several specimens taken by Mr. Dale upon *Ononis arvensis*, I find that the scutellum is elongated, and hangs over the abdomen like a tail.
- 161 25  
162 27  
164 35  
166 34, 42, & 47  
162 } for *Cocææ* read *Coxæ*.
- The male of *M. notatus* has 2 long curled membranous appendages, one on each side the apex of the abdomen; the anterior tibiæ have a strong bifid tooth on the inside near the middle, the 2nd joint of the tarsi is not short, and the tibiæ of the middle pair of legs have a fascicle of hair near the apex.
- 166 for *Colas* read *Colax*.
- 177 *Mischia bimaculosa* is said to have been taken at Bristol in June.

For an explanation of the terms used in this Work, the reader is referred to Kirby and Spence's Introduction to Entomology, Samouelle's Useful Compendium, and Stewart's Elements of Natural History.

Purchasers are recommended to have their volumes put in Boards only, until the work is completed, when a Systematic Arrangement of the whole will be given.

Binders are requested on no account to beat the Volume, until it has been published a sufficient time to prevent the ink being transferred by pressure.

\* Wherever the letter a follows the number of the Folio, it indicates a reference to the second page of that Folio.

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## ACHERONTIA ATROPOS.

The Death's-head Hawk-moth or Bee-tiger.

ORDER Lepidoptera. FAM. Sphingidæ.

*Type of the Genus Sphinx Atropos Linn.*

ACHERONTIA Och., Lat. Sphinx Linn., Fab., Lat., Haw. Spectrum Scop.

*Antennæ* inserted close to the eyes at the back part of the head, scarcely fusiform, subprismatic, more robust in the male than female, uncinated, covered with scales above, and ciliated with fascicles of hair beneath in the males (fig. 1 a) : basal joint robust hairy, the remainder short transverse, terminal joints forming a hook terminated by a long setaceous seta covered with hairs (1 b).

*Labrum* none.

*Mandibles* remote ciliated.

*Maxillæ* spiral, short, horny, robust, hairy beneath at the base, composed of numerous transverse rings, having a few rows of punctures largest towards the apex (3).

*Labial Palpi* 2, not porrected, lying close to the head, densely covered with hair on the outside, naked inside, the 2nd joint being hollow and partially covered by a thick regular row of hairs (4) ; 3-jointed, basal joint curved, 2nd dilated ovate, convex externally, 3rd small obtuse, with a deep fovea on the outer side (4 a).

Head, thorax, abdomen and legs *densely covered with short pile.*

Wings *deflexed in repose, velvety, the lower ones having a hook or catch at the exterior edge to retain those above. Cilia very short.*

Claws *strong very distinct.*

Caterpillars *with 6 pectoral, 8 abdominal and 2 anal feet, the horn tuberculated, curved at the apex.*

ATROPOS Linn. Syst. Nat. t. 2. p. 799. n. 9. Haw. p. 56. n. 1.

Antennæ and proboscis blackish, the apex of the former white. Head and thorax cinereous black, the latter having an orange mark resembling the front view of a cranium. Abdomen black, grayish down the back, with 5 or 6 orange spots on each side. Superior wings black, variegated with ferruginous minutely spotted with white, having several black transverse interrupted waved lines, one near the base and two others nearer the apex ochraceous, and a spot towards the middle of the same colour : inferior wings orange with 2 black indented fasciæ parallel to, but not touching, the margin.

*In the Author's and other Cabinets.*

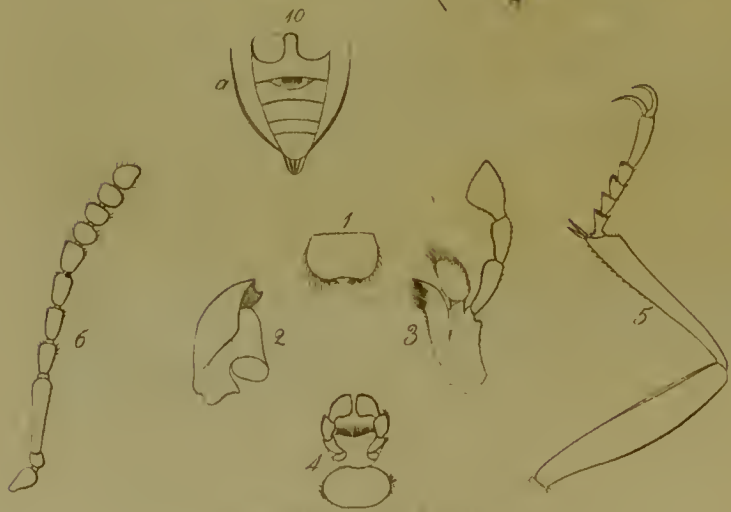
THE common occurrence of the caterpillars of the Death's-head Moth during the last 2 or 3 years has been universally noticed, and various accounts have appeared in our journals describing their size and beauty; but so many of them perish in the chrysalis, that the moth was less abundant. The beautiful male in the plate was presented by my valued and sincere friend Moses Haughton, Esq.: it is much smaller than many females, some of which are nearly 6 inches when expanded, being the largest of European insects. The caterpillars feed upon the flowers and leaves of the Potatoe and upon the Jasmine, and it is also said upon the Hemp, Elder, and Woody Nightshade (pl. 102); concealing themselves during the day beneath the leaves and under the ground, and coming out only in the evening to feed, by which means they are protected from the piercing rays of the sun and from the attacks of the *Ichneumonidæ*: towards the end of summer (especially in September) they are full fed, when they bury themselves and become pupæ. One of these, which I had in my hand just before the moth hatched, ejected some moisture from 2 long spiraculæ over the anterior scales of the thorax, through which it appeared to breathe; and when this magnificent insect burst into life, its antennæ and limbs were enveloped in a fine membrane resembling tissue-paper, which prevented them from adhering, and dropped off as they unfolded: the wings, as usual, were not larger than one's nail, but he speedily placed himself so that they hung down, by which means the vessels were immediately injected with fluid or air, and in 2 hours they were perfectly expanded.

The moths are found in September, but more generally in October: they are not easily injured, and from the peculiar sound they emit (faintly resembling the squeaking of a mouse, and probably performed by the palpi from the curious structure on the internal side of the 2nd joint), as well as from the death's head upon the thorax, they were formerly looked upon as "the messengers of pestilence and of death." They are sometimes found in houses and upon the trunks of trees; and in Mr. Hatchet's fine collection are several specimens that were captured in a very singular way:—a vessel was lying at anchor off the coast of Devon, when a number of these *Sphinges* came to a lanthorn on board, and about a dozen of them were knocked down by the sailors.

I have scarcely room to add, that the velvety clothing, the shortness of the proboscis of our insect (which in *Sphinx* is as long as the body), and the different character of the caterpillar, particularly the tail, fully bear out Ochsenheimer in establishing it as a genus; and we are surprised it has not been more generally adopted.







1827

## BLAPS OBTUSA.

ORDER Coleoptera. FAM. Blapsidæ *Lat., Leach.*

*Type of the Genus Tenebrio mortisagus Linn.*

BLAPS *Fab., Lat., Oliv., Leach.* *Tenebrio Linn., Geoff., DeGeer.*

*Antennæ* inserted before the eyes, subfiliform, 11-jointed, basal joint pear-shaped, 2nd minute, 3rd long, 4 following of equal length, the 7th being the largest, the remainder moniliform, the last subconic (fig. 6).

*Labrum* exserted, transverse-ovate, slightly emarginate, pilose, with a thick brush of hair on each side near the centre of the anterior margin (1).

*Mandibles* large, bent, broad and bifid at their apex, fleshy on the internal side (2).

*Maxillæ* bilobed, internal lobe slender, bent, horny and bidentate at the apex, ciliated internally, outer lobe thick ovate, hairy at the apex. *Palpi* rather long, 3-jointed, basal joint long clavate, 2nd shorter clavate, 3rd large obtrigonal (3).

*Mentum* small, not covering the base of the maxillæ, transverse-ovate. *Lip* large subcordiform, ciliated with strong hairs. *Palpi* inserted on each side the lip, 3-jointed, basal joint short, 2nd robust trigonal, 3rd large securiform (4).

Head rounded, rather small. Eyes small, lateral, lunular. Thorax sub-quadrate. Scutellum very small or wanting. Elytra connate, sides inflexed, apex mucronate especially in the males, in which sex there is a fascicle of hair at the base of the 2nd abdominal joint beneath (10 a). Wings none. Legs long, robust. Tibiæ simple, spurred. Tarsi alike in both sexes, 4 anterior 5-jointed, posterior pair 4-jointed. Claws long. Pulvilli none (5, a fore leg).

OBTUSA *Fab. Ent. Syst. Supp. p. 46.—similis Lat. Hist. Nat. t. 10. p. 279.—lethifera Marsh. p. 479. n. 2.*

*Male* black, naked. Head thickly and minutely punctured. Antennæ shorter than the thorax, all the joints excepting the 3rd being moniliform. Thorax transverse, anterior angles very much rounded, finely and thickly punctured. Elytra very broad, convex, acuminate at the apex, coarsely and thickly punctured. Process between the posterior coxæ narrower than in *B. mortisaga*, a tuft of yellowish hair arising in the middle, at the base of the 2nd abdominal segment (f. 10, underside of abdomen).

*Female* broader, less shining, scutellum none; elytra more obtuse and less acuminate.

*In the Author's and other Cabinets.*

If it were not well known that the larvæ of the *Heteromera* are exceedingly different from those of the predaceous *Pentamera*, it might be difficult to ascertain whether their relationship had not a greater claim than that of analogy; and more satisfactory examples to confirm our opinion cannot perhaps be adduced than the genus before us and *Cychnus*:—their antennæ are not very dissimilar, they are destitute of wings, and the elytra are united, the palpi are hatchet-shaped, and in the maxillæ the resemblance is still maintained in the internal lobe which is bent and acute, and the external one which assumes the same dilated form. *Blaps* is, however, less perfect in structure, having fewer joints in the palpi and posterior tarsi; the mandibles, mentum and lip, are very different, &c.

There are 3 British species: viz.

1. *B. gigas* Linn.—*gages* Fab., *Panz. fasc.* 96. n. 1.
2. *mortisaga* Linn., *Panz. fasc.* 3. n. 3.
3. *obtusa* Fab.

A single specimen of the magnificent *B. gigas* was found in the stump of a felled tree in 1824 on Portsea Common, and is now in the cabinet of J. H. Griesbach, Esq.

*B. mortisaga*, which is supposed to be the *Blatta* of Pliny, is found as early as April in dark and damp places, in churches, cellars, kitchens, &c. It has a very fetid scent, and, like *Acherontia Atropos*, has been regarded by the superstitious as an omen of misfortune. It is most tenacious of life, one having lived upwards of 3 years with Mr. H. Baker without food, and revived after having been kept in spirits of wine a whole night: this I have observed myself in *Coccinella*, two of which re-animated after being 24 hours in the same spirit.

No figure of *B. obtusa* having come to our knowledge, except indeed one of Schæffer's, it cannot be otherwise than useful, especially as it is often confounded with *B. mortisaga*. It is very much broader than that species, more convex, less shining, more coarsely and thickly punctured; the antennæ are much shorter, the female has no scutellum, and that of the male is nearly obsolete. It is not common, but has been abundant in stables at Norwich and cellars at Hertford in June.

*Blaps sulcata*, an Egyptian species (Latreille informs us), is employed by the Turks to alleviate pain of the ear, and to cure the sting of the scorpion. The women of Turkey also cook this insect in butter to fatten themselves.

The plant is *Helleborus viridis* (Green Hellebore), communicated by Professor Henslow.





Carl. Linn. London Jan 1787

## CICONES CARPINI.

ORDER Coleoptera. FAM. Cisidæ *Leach.*—Bostrichini *Lat.*

*Type of the Genus Cicones Carpini Nob.*

CICONES *Nob.*

*Antennæ* inserted close to the anterior margin of the eyes, slightly pilose, capitate, 10-jointed, 1st and 2nd joints robust, subglobose, the 7 following more slender, gradually increasing in diameter, the 10th joint orbicular, very large and pubescent (fig. 6).

*Labrum* semicircular, thickened and ciliated at the anterior margin (1).

*Mandibles* small, acute, membranous on the internal margin (2).

*Maxillæ* small bilobed, very pubescent at the apex. *Palpi* slightly pubescent, 4-jointed, basal joint small, 2nd and 3rd robust, subquadrate, 4th large ovate (3).

*Mentum* large, trigonate truncate. *Labium* quadrate ciliated.

*Palpi* attached to the sides of the labium, 3-jointed; basal joint minute, 2nd small, 3rd ovate (4).

Head sunk up to the eyes which are small. Thorax gibbous subquadrate, margined, not closely attached to the abdomen. Scutellum triangular. Elytra ovate. Wings ample. Thighs rather long. Tibiæ simple. Tarsi all 4-jointed, 3 first joints short, 4th longer than the others united, clavate. Claws simple (5, a fore leg).

CARPINI *Nob.*

Castaneous black, sparingly covered with stiff short yellow bristles. Head minutely and thickly punctured. Thorax with 2 obtuse elevations near the middle, behind, rugosely punctured. Elytra very convex with 3 elevated longitudinal lines, and 9 punctured striæ on each, more castaneous than the thorax, having an oblique spot near the anterior angle, 3 near the middle, a transverse lunulated mark and another near the apex dull orange. *Antennæ* ochraceous. Legs pilose ferruginous.

*In the Cabinets of Mr. Beck and Mr. Bainbridge.*

WE have been compelled to establish this little insect as a genus, from its not associating with any group that we are acquainted with. Its natural situation is probably between *Cis* and *Cerylon*; and were it not for Fabricius's words "Antennæ perfoliatæ," we should consider that his *Dermestes scaber* would form a second species.

*Cicones Carpini* is so like in size and colour to *Bolitophagus pictus* of Sturm's *Deutschlands Fauna*, that at first sight we concluded it was nearly allied to it: a slight examination, however, proved that ours was a Tetramerous insect, and that it belonged to the *Bostrichini* of Latreille, as will be seen by referring to the legs and antennæ in the annexed plate.

A single specimen of this insect (which we cannot find any where described) was taken from under the bark of a Hornbeam tree (*Carpinus Betulus*) on Epping Forest in March 1826, by Mr. T. Beck, and another about the same time by Mr. Bainbridge, who liberally allowed it to be dissected to supply the magnified figures in the plate.

The plant is *Arenaria trinervis* (Plantain-leaved Sandwort).







*Edw. L. Ingham, London, Jan. 1, 1877*

## NEIDES ELEGANS.

ORDER Hemiptera. FAM. Coreidæ *Leach.* Corisiæ *Lat.*

*Type of the Genus Cimex tipularius Linn.*

NEIDES *Lat.* Berytus *Fab., Wolff., Leach.* Gerris *Fab.* Cimex *Linn.*

*Antennæ* inserted laterally, considerably before the eyes, long, geniculated, 4-jointed, slightly pubescent, basal joint long capitate, 2nd short, slender, 3rd long capillary, 4th elongate-ovate, pilose (fig. 4).

*Rostrum* rather longer than the head, inflected, 4-jointed, pilose, basal joint most robust, terminal joint slender rather the longest (2).

*Labrum* longer than the basal joint, strap-shaped, not striated (3, 3).

*Mandibles* and *Maxillæ* like setæ passing through the rostrum.

Head elongate cylindric produced in front. Eyes small ovate lateral.

Ocelli 2, remote, placed behind the eyes (1 a). Thorax sub-quadrate, sometimes elongate, carinated. Abdomen sublinear, the sides elevated. Scutellum minute. Elytra long and narrow, with strong elevated nervures at the costa and base, the area reticulated (9). Wings small or none, without nervures. Legs long and slender, hinder pair very long. Thighs clavate. Tibiæ simple swelled at their insertion. Tarsi 3-jointed, basal joint the longest, 2nd minute. Claws simple (6, a fore leg).

Obs. *The dissections were made from Berytus clavipes Fab.*

ELEGANS *Nob.*

Head black shining, ocelli and neck ochraceous. Thorax ochraceous, with a polished black spot on each side near the anterior margin, and a smaller one at the insertion of the elytra; granulated, slightly glittering, lateral margins angulated, a slight ridge down the centre very much developed and blackish posteriorly. Abdomen black at the base, brown in the middle and fuscous on the sides. Elytra and wings slightly iridescent and rugose, the former with a few nervures only at the costa and base, an elongated brown spot near the apex and a fainter one nearer the middle. Antennæ and legs pale ochre, the former with the basal joint spotted black, the 2nd spotted fuscous, terminal joint black, pubescent. Thighs slightly ferruginous at their apex, spotted black, especially the posterior pair. Tibiæ and tarsi all spotted black, the latter with the terminal joint black.

*In the Cabinet of the Author.*

THESE curious and elegant little insects are remarkable for their slender and long legs, especially the hinder pair, and for their clubbed and bent antennæ, which, when alive, they carry something like ants, as represented at fig. 4.

Our insect, from its head being less elongated than in the other species, its elytra having fewer nervures, the ample under wings, and the intermediate joints of the antennæ being of equal length, will form a 2nd division of the genus *Neides*, which name is restored because Latreille employed it in his characters published before Fabricius's *Systema Rhyngotorum* appeared.

We can now enumerate 3 species :

1. *N. tipularius* *Linm.*, *Wolff. tab. 20. f. 198.* Inhabiting grassy places in June and August.
2. *clavipes* *Fab.* Inhabiting grassy places: not uncommon in Norfolk.
3. *elegans* *Nob.* Of this pretty insect, which appears to be perfectly new, I found a pair in the North Foreland meadow, Dover, on the 14th August last. The male, which sex is figured, is a little smaller than the female, but varies from it in no other respect: the scutellum, perhaps, may not be quite correctly represented, the pin having passed through both of them.

*Asperula cynanchica* (Small Woodroof), from the same neighbourhood as the insect, is figured with it.





Painted by J. Curtis, London, Feb. 1. 1827

## CYBISTER RÆSELII.

ORDER Coleoptera. FAM. Dyticidæ *Leach*. Hydrocanthari *Lat.*

*Type of the Genus Dytiscus lateralis Fab.*

CYBISTER *Nob.*—Trogus *Leach.*—Dytiscus *Fab.*

*Antennæ* inserted close to the eyes at the base of the mandibles, subsetaceous, naked, 11-jointed, basal joint not so long as the 3rd, 2nd joint very short, 3rd the longest, the remainder decreasing in length to the last, which is slightly bent and subconic at the apex (fig. 6).

*Labrum* transverse, slightly emarginate, with a small fleshy lobe beneath in the middle (1).

*Mandibles* short, robust, emarginate at the apex, which is truncated obliquely, with 2 small teeth on the internal margin (2).

*Maxillæ* small, bent, acute, ciliated internally with rigid bristles.

*Palpi*; *internal* short, 2-jointed, basal joint shorter than the 2nd which is slightly curved; *external* long, 4-jointed, 1st joint half as long as the 2nd and 3rd which are of equal length and truncated, the 4th longer and a little dilated on the external side (3).

*Mentum* transverse, bilobed, the centre being slightly produced.

*Palpi* arising from cylindric scapes, 3-jointed, 1st joint small, 2 following long of equal length, clavate-truncate. *Labium* large quadrate-ovate, ciliated (4).

Head rounded. Thorax transverse. Scutellum distinct. Elytra smooth in the males, vermiculated the greater portion of their length from the base in the females. Wings two. Tibiæ spurred, very short, the anterior pair being the longest. Tarsi 5-jointed, anterior patelliform in the males, the 3 first joints being dilated, with suckers beneath and ciliated, the 4th minute, 5th not very long (5); 2nd pair more robust in the males, none of the joints dilated, the 1st and 2nd pubescent beneath; posterior elongated. Claws unequal, posterior monodactyle (5†, a hind leg).

Obs. The dissections were made from a male of *C. Ræselii*.

RÆSELII *Fab. Ent. Syst. v. 1. pars 1. p. 188, n. 5.*—dispar *Ross. Fn. Etrus. 1. 199. 489.*

*Female* smooth, shining, olive green. Clypeus and labrum ochraceous. Thorax sculptured with small curly lines and points, with a slight channel down the centre, sides margined with ochre, anterior and posterior margins slightly ferruginous: scutellum inclining to the same colour. Elytra vermiculated  $\frac{3}{4}$  of their length from the base, 2 widely punctured striæ on each, only visible at the apex, which is quite smooth as well as the suture, an ochraceous broad line tapering towards the apex, next the external margin, which is the same colour as the elytra. Antennæ and legs ferruginous. Tibiæ and tarsi castaneous, the latter inclining to black. Beneath ochraceous variegated with ferruginous. Furcate process of metasternum obtuse.

*In the Cabinet of Mr. Griesbach.*

THIS group of *Dyticidæ* was first defined by Dr. Leach, and established as a genus in the 3rd volume of the Zoological Miscellany, where unfortunately, the name of *Trogus* is assigned to it, which had been applied many years before by Panzer to some of the *Ichneumonidæ*; it has therefore become necessary to supersede it, and *Cybister* (which is derived from the Greek) is not inapplicable.

As the natural situation of our genus appears to be between *Acilius* and *Dyticus* (both of which have been figured and described in former parts of this work), we propose the following arrangement for the commencement of the family, beginning with *Acilius*, which, from its depressed form, short tibiæ, unequal claws, &c. is allied to *Cybister*; after which follows *Dyticus*, commencing with *D. latissimus* Linn., and ending with *D. angustatus* Steph., which leads to *Hydaticus*, being more convex, and having the intermediate tarsi dilated at their base, a character possessed by *Colymbetes*, which will consequently follow.

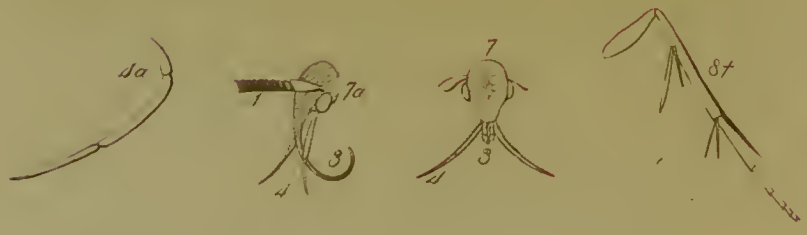
The few species at present known of our genus are widely dispersed, having been received from China, Tranquebar, the Mauritius, and North America. *C. Raselii* has long been described as a native of Germany, France and Sweden, but it has never before been recorded as British; and the only indigenous specimen at present known is the female figured, which was found the 30th Sept. 1826, in a puddle at Walton, Essex, by J. Dane, Esq., who presented it to the gentleman in whose cabinet it is preserved, and through whose kindness we are enabled to present our readers with this fine and valuable acquisition.

The difference of sculpture in the sexes is fully described in the generic characters: in colour they are very similar, the males are generally larger, and in our species they are blackish beneath.

The beautiful *Hottonia palustris* (Water-violet) accompanies the insect in the plate.







Curtes Linnaeus Tab. 11827

## GLYPHIPTERYX LINNEELLA.

ORDER Lepidoptera. FAM. Tineidæ Leach. Tineites Lat.

*Type of the Genus Phalæna Linneella Clerck.*

GLYPHIPTERYX Nob.—Cecophora Lat.—Tinea Fab.—Phalæna (Tinea) Linn.

*Antennæ* capillary, alike in both sexes, inserted close to the eyes on the crown of the head, as long as the wings, composed of numerous joints covered with scales, the basal joint long, nearly naked and subclavate (fig. 1, a few joints magnified).

*Maxillæ* not much longer than the palpi, attenuated, robust and covered with scales at the base (3, 3).

*Labial Palpi* drooping and diverging outward (4, 4), longer than the head, slender, slightly curved, and sparingly clothed with small scales, 3-jointed, basal joint clavate, 2nd long linear, 3rd nearly as long attenuated (4 a).

Head obovate viewed in front, the clypeus being somewhat produced (7), covered with close, broad, shining imbricated scales. Eyes small (7 a, the head in profile). Wings subdeflexed when at rest, superior linear-lanceolate embossed, the posterior margin not defined producing very long hairy scales from the surface, forming the cilia: inferior lanceolate, surrounded by very long cilia. Legs, posterior pair the longest. Thighs very short. Tibiæ, anterior with an internal spine, the remainder spurred, the posterior having 2 spurs towards the base and producing some long hairs on the outside. Tarsi 5-jointed. Claws minute (8 †, a hind leg).

Caterpillars with 14 feet. Fab. Pupæ naked. Fab.

LINNEELLA Clerck, tab. 12. f. 8.—Linn. Faun. Suec. 1408.

Head thorax and abdomen very glossy, dull and pale violaceous. Antennæ black, white at their apex. Palpi and legs fuscous variegated with yellowish white. Superior wings bright orange, black at the base and apex where it is metallic; a line on the costa interrupted in the middle, a small spot near the base and 3 embossed spots forming a triangle in the middle of each wing burnished silver, the latter black beneath. Inferior wings blackish violet, with a yellow cast. Cilia blackish.

*In the Author's and other Cabinets.*

THE long palpi, which form so strong a feature in the *Tineida*, are so constantly either porrected or recurved over the head, that the drooping attitude of the species under investigation, cannot fail to strike a close observer of these little insects; and if we had not had the opportunity of examining a considerable number, we should have concluded that it was merely accidental: the perfect smoothness of the head and its peculiar form, the smallness of the eyes, and the robust and scaly base of the proboscis, are also by no means universal characters. From the beautiful elevated metallic spots upon the wings, which are composed as in *Peronea*, of bundles of longer scales than those covering the rest of the surface, they have an embossed appearance, for which reason the name *Glyphipteryx* has been assigned to them.

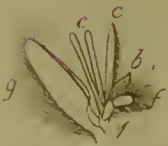
From our insect answering Linnæus's description so well, there can be little doubt that it is the *Phalæna Linneella* of Clerck, who figured and named it after the illustrious Swede. Although small it is extremely beautiful, and is considered by collectors a valuable acquisition; indeed it existed in very few cabinets until my friend Mr. Charles Fox detected a considerable number upon the trunks of willow-trees, last July, near the banks of the Thames, and liberally supplied me with very fine specimens.

*Phalæna (Tinea) Schæfferella* Linn.; and *Don. Brit. Ins. v. 5. pl. 175*, belongs to our genus. This pretty insect we once met with in abundance upon the Tansy (*Tanacetum vulgare*), and Mr. Donovan found it in May upon the same plant. Linnæus says it feeds upon the leaves of a Fagus.

Not having specimens of *P. Ræßella* Linn. (Clerck, *tab. 12. f. 13.*), we cannot be positive, although there is little doubt that it belongs to our genus: Linnæus says that the caterpillars feed upon the parenchyma of the leaves of apple-trees. The larvæ are all probably subcutaneous feeders, as well as those of the large group, which we shall call *Argyromiges*, containing *Tineæ Gadartella, semiargentella, Cramerella, Rayella, &c.*

The plant figured is *Geranium Robertianum* (Herb Robert).





*del. G. C. Curtis. London. Febr. 18. 7*

## DASYPOGON BREVIROSTRIS.

ORDER Diptera. FAM. Asilidæ *Lat. Leach.*

*Type of the Genus Asilus Diadema Fab.*

DASYPOGON *Meig., Lat., Fab., Leach.*—*Asilus Linn., Fab., Panz.*—*Erax Scop.*

*Antennæ* contiguous, porrected, inserted in the middle of the face, not longer than the head, 5-jointed, basal and 2nd joints of equal size, subovate, pilose, 3rd joint long pubescent, attenuated, 4th small, 5th rather long, slender and terminated by a transparent bristle (fig. 3).

*Labrum* very short, broad, acuminate (1 b).

*Tongue* long horny acute, very hairy on the upper side (c).

*Mandibles* none.

*Maxillæ* long linear, submembranous towards the apex (e).

*Palpi* short, cylindric, 2-jointed, covered with woolly hair (f).

*Lip* large, very horny, hairy, hollow, open and narrowed at the base (g).

Head *transverse, very short, attached by a distinct neck. Proboscis exerted obliquely, as long as the head. Clypeus convex bearded. Eyes remote in both sexes. Ocelli 3 in triangle (2, the head in profile). Thorax gibbous. Scutellum rounded. Abdomen cylindrical-conic, shorter than the wings, more slender in the male. Wings incumbent, containing about 15 cells, with 5 perfect upon the posterior margin, 1st costal cell extending only to the middle. Halteres naked, trigonate. Legs rather robust. Tibiæ straight simple. Tarsi 5-jointed hairy, basal joint the longest. Claws distinct. Pulvilli 2, with a bristle arising from the centre at the base.*

Obs. *The dissections were made from D. brevirostris.*

BREVIROSTRIS *Meig. Syst. Besch. v. 2. p. 273. n. 24.*—*fem. D. armilatus Fall.*—*male D. longitarsis Fall.*

*Male.* Black, shining, minutely punctured, covered with yellowish hair. Hair on the clypeus ochraceous. Thorax with the hair long and fine. Abdomen cinereous black, covered with short pubescence, rather longer at the base. Wings hyaline, iridescent, fuscous at the apex, nervures piceous. Halteres with the club yellowish. Anterior tibiæ rufous at their insertion, middle and posterior rufous, black at their apex, the latter robust, narrowed at the base: posterior tarsi very slender, the basal joint very long, the remainder very short (fig. 3†).

*Female.* Larger, pubescence rather aureous. Wings yellowish towards their base, not fuscous at the apex. Posterior tibiæ robust, but not suddenly incrassated; posterior tarsi scarcely longer than the others, but more robust.

*In the Author's and other Cabinets.*

*DASYPOGON* is a handsome genus embracing 44 described European species; it is closely allied to *Asilus*, and probably connects that genus with *Laphria*: it is easily distinguished from either by the nervures of the wings, those of *Asilus* having 2 discoidal cells, and *Laphria* having a pedicel to the submarginal cell, the structure of the antennæ is also very different to those of the latter genus.

Hitherto there has been but one species recorded as British, we therefore consider ourselves fortunate in adding this second to our catalogue, and in Mr. Walker's cabinet at Arno's Grove we lately saw another with clouded wings.

1. *D. punctatus* *Fab. fem.*,—*Panz.* 45, 24.—*diadema* *Fab. mas.*, *Panz.* 45, 23.—*D. nervosus*, *Panz.* 105, 9, var.

Specimens of this fine insect have been taken I believe near Bristol, in sandy situations in June and July, and are in the cabinets of the British Museum and Mr. Stephens.

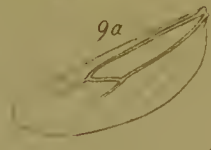
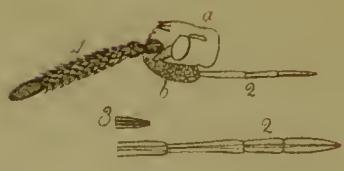
2. *D. brevisrostris*.

The male of this insect, which is remarkable for the length of its posterior feet as exhibited in the figures annexed, I first took at Darent Wood, Kent, the end of June: about the same period Mr. Dale and the Rev. L. Jenyns met with it in plenty on Newmarket Heath, in a place commonly called the Devil's Dyke, and the middle of August I found several pair settling upon the plants that grow in profusion in the North-Foreland meadow, Dover. Its habits are very similar to those of *Asilus*, and a female that I saw resting upon paling early in the morning exceedingly resembled the smaller species of that genus: at a more advanced period of the day, they became like their congeners very wild and active.

They are evidently attached to chalky districts, where the plant figured, *Chlora perfoliata* (Perforated Yellow-wort), is also abundant.







*Chrysopa* (Linn.) *Chrysopa* (Linn.)

## DICTYONOTA CRASSICORNIS.

ORDER Hemiptera. FAM. Cimicidæ *Lat., Leach.*

*Type of the genus Tingis Eryngii Lat.*

DICTYONOTA *Nob.*—*Tingis Fab., Lat., Panz., Fall., Leach.*—*Cimex Linn., Geoff., DeGeer.*

*Antennæ* inserted before the eyes, on each side of the head, long, robust, scabrous, 4-jointed, 1st and 2nd joints subglobose, 3rd the thickest, very long, covered with small tubercles producing hairs, 4th ovate pilose (fig. 4).

*Rostrum* inflected, extending the whole length of the thorax when at rest (2): confined at the base by two reticulated membranous plates, more dilated and less produced on the pectus (2 b): 4-jointed, basal joint robust, 2nd long slender, 3rd rather shorter than the 4th which is lanceolate and as long as the first (2).

*Labrum* short, tongue-shaped, grooved (3).

*Mandibles* and *Maxillæ* like setæ passing through the rostrum or labium.

Head small, trigonate 4-spined. Eyes lateral. Ocelli none. Thorax transverse, reticulated, margins dilated, transparent, inflated in the centre of the anterior margin, having 3 carinæ down the back and produced posteriorly in the form of a scutellum. Body depressed. Elytra transparent, reticulated, having two strong nervures in the middle of each forming an ellipsis. Wings ample, having 2 longitudinal nervures united near the middle by an oblique one (9 a). Legs not long simple. Tarsi 3-jointed (6, a fore leg).

CRASSICORNIS *Fallen Mon. Cim. Suec. p. 38. n. 8.*

*Antennæ* black, rough, the 3rd and 4th joints producing rather long spreading hairs, the terminal joint being half the length of the 3rd. Head and eyes black thickly punctured, the spines before the eyes inclining outward, those in the centre contiguous. Thorax slightly ochraceous, nervures brown, transverse, quadrate-ovate, black and deeply punctured in the middle, carinæ very much produced reticulated. Elytra of the same colour, fuscous in the middle, the reticulations being nearly of equal size and strength throughout. Legs ferruginous, thighs blackish in the middle, last joint of tarsi fuscous. Beneath black. Abdomen castaneous.

*In the Cabinet of the Author.*

THE *Tingidæ* are a pretty group, varying considerably in outline and in the form of the antennæ, and will most probably eventually constitute several genera. The 2 species included in our genus *Dictyonota* (in allusion to the reticulated back), possess a strong generic character in the 3rd joint of the antennæ being the thickest, whereas in all the others the terminal one is the most robust, making them more or less clavate: the inflated hood over the head distinguishes it also from many others, but not from *T. spinifrons* of Fallen, figured by Panzer *fasc. 99. n. 19.* under the name of *T. cristata*.

That our insect is the *T. crassicornis* of Fallen there is little doubt, although from his not being acquainted with the other species, his description will in a great measure apply to both. I have only seen one specimen, which I found under a stone in a meadow near Bognor, Sussex, the beginning of August; from which the annexed figure was taken.

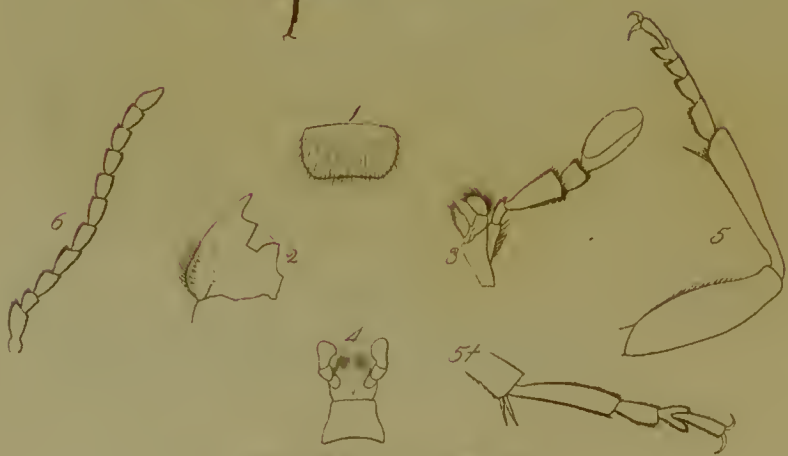
The other species appears to be the *T. Eryngii* of Latreille. It was taken in some abundance in July upon furze bushes (*Ulex*), by Mr. Carpenter; and although with the assistance of a glass many characters present themselves, yet as there is a strong resemblance, we cannot perhaps employ ourselves more usefully than by subjoining the characters.

*Dictyonota Eryngii Lat. Hist. Nat. v. 12. p. 253. n. 6.*

Antennæ black, scabrous, 2nd and 3rd joints producing short hairs, terminal joint small ovate (*f. 4.*) Head and eyes black punctured, 2 short, elevated ochraceous lines behind the eyes (a), lateral spines parallel; central spines distant, pale at the apex (2.) Thorax narrowed anteriorly, slightly ochraceous, nervures fuscous, indistinct upon the posterior process; centre brown and ochraceous, minutely punctured, 3 carinæ down the back, not reticulated. Elytra slightly ochraceous, reticulations much smaller and less distinct towards the middle, the space formed by the union of the 2 nervures in the middle, not extending more than half their length. Legs black, tibiæ and apex of thighs ferruginous. Beneath black.

The plant is *Samolus Valerandi* (Brookweed).





*Die Naturgeschichte der Insekten, 1817*

## MELANDRYA CANALICULATA.

ORDER Coleoptera. FAM. Melandryadæ *Leach.* *Helopii Lat.*

*Type of the genus Chrysomela Caraboides Linn.*

MELANDRYA *Fab., Lat., Gyll.*—*Helops Fab.*—*Serropalpus Ill.*—*Chrysomela Linn.*

*Antennæ* inserted before the eyes, rather short, filiform, 11-jointed, pubescent, basal joint somewhat larger than the 3rd, 2nd the smallest, the remainder gradually decreasing in length to the end, terminal joint subovate (fig. 6).

*Labrum* rather large, transverse-ovate, hairy (1).

*Mandibles* subtrigonal, very broad at their base, acute at the apex, having a square notch on the internal margin, covered by a membranous lobe; external surface hairy (2).

*Maxillæ* very small, bilobed, external lobe ovate ciliated, jointed near the base, internal smaller linear hairy. *Palpi* porrected, very long and large, 4-jointed, basal joint small, 2nd long, clavate truncate, 3rd subturbinate, 4th large ovate, truncated obliquely and fleshy on the internal side (3).

*Mentum* very small, coriaceous, quadrate, dilated at the base.

*Lip* nearly as large as the mentum, cleft in the centre and thickly ciliated. *Palpi* attached to the lip, short, robust, 3-jointed, terminal joint the largest, compressed, dilated at the apex (4).

Head *nutant.* Eyes *ovate lateral.* Thorax *flat, subtrapezoid, broadest at the base, posterior margin sinuated.* Scutellum *triangular.* Coleoptera *subelliptic.* Wings *broad, scarcely longer than the body.* Legs *robust.* Tibiæ *simple spurred at their apex, those of the anterior pair being the smallest.* Tarsi *with the penultimate joints bilobed; 4 anterior 5-jointed (5); posterior pair 4-jointed, basal joint long (5 †).*

CANALICULATA *Fab. Ent. Syst. v. 1. pars 1. p. 119. n. 10.*—*Gyll. Ins. Suec. t. 1. pars 1. p. 535.*

Black with a bluish tinge, minutely punctured, covered with short black pubescence. Thorax subtrigonal, truncate, posterior margin sinuated, angles acute, an obscure channel down the centre and a fovea on each side at the base. Elytra with 4 longitudinal furrows, obliterated at the base, forming 5 elevated convex lines. Trophi ferruginous. Antennæ and legs piceous inclining to castaneous, the former lightest towards the extremity: the tarsi with the terminal joint ferruginous.

*In the Cabinet of Mr. Bentley.*

THE genus *Melandrya* was first established by Fabricius, who had before united it with *Helops*. Latreille in his early works formed a family of the *Helopii*, including *Helops*, *Melandrya*, *Serropalpus*, *Hallomenus*, *Orchesia*, *Pytho*, *Lagria*, and *Nilio*. In his "*Considérations Générales*" he has extended his family by uniting the *Tenebrionites*, *Diaperiales*, and *Helopii*, designating them by the former appellation; and in his "*Familles Naturelles*," *Melandrya*, *Conopalpus*, *Dyreca*, *Hypulus*, *Serropalpus*, and *Nothus*, constitute the tribe *Securipalpi*, uniting the *Helopii* by the *Cistelides*, which appears to be natural, and is similar to the arrangement proposed by Dr. Leach. *Melandrya* is considerably allied to *Myeetocharus* Lat. in habit, and to *Serropalpus* &c. in œconomy. The mandibles present a character which we noticed in *Byrrhus*, and which obtains also in *Cantharis*—a notch on the internal side covered with membrane.

There are but 3 species of our genus recorded, 2 of which are British.

1. *M. Caraboides* Linn.—*serrata* Fab., Panz. 9. 3.

This is by no means an uncommon insect during the months of March, April, May, and June, under the bark of decaying trees, upon which probably the larvæ feed. I have found specimens also running upon the pollard willows in Battersea fields, and took one on the wing in Coombe Wood.

2. *M. canaliculata* Fab., Gyll.

The only British specimen at present known is the one figured, which was met with flying near Brockenhurst in the New Forest the middle of June 1823, by Mr. Bentley. The specimen agrees very well with Fabricius's description, except that the legs and antennæ are entirely piceous. Panzer's figure of it is by no means so good as his usually are; and the striæ converge to the suture, which if correct would separate ours from it: the same error, however, occurs in his figure of the other species in our copy of his *Faunæ Insectorum Germanicæ*.

The beautiful variety of *Symphytum officinale* (Common Comfrey) I gathered the middle of last September upon Sandown Marshes in the Isle of Wight; and at the same time I found several specimens with flowers of the richest purple, and others entirely green.







## MYCETOPHAGUS PICEUS.

ORDER Coleoptera. FAM. Mycetophagidæ *Leach.* Xylophagi *Lat.*

*Type of the Genus* *Chrysomela 4-pustulata Linn.*

MYCETOPHAGUS *Fab., Oliv., Panz., Lat., Gyll.*—*Tritoma Geoff.*—*Boletaria Marsh.*—*Ips Fab.*—*Carabus, Chrysomela Linn.*

*Antennæ* inserted before the eyes, on each side the head, more or less clavate, very pubescent, 11-jointed, basal joint obovate, 2nd small, 4 following of nearly equal length, increasing in diameter, the remainder more robust, cup-shaped and forming a perfoliated club, the terminal joint elongate-ovate (fig. 6).

*Labrum* exerted, transverse, anterior margin rounded and ciliated (1).

*Mandibles* small and broad, bifid at the apex, internal margin thin, sinuated (2).

*Maxillæ* small bilobed, coarsely ciliated, internal lobe narrow, external one large. *Palpi* long, porrected, very robust, pubescent, 4-jointed, basal joint minute, 2nd long clavate, 3rd subtrigonal, 4th large subovate, truncated obliquely, being slightly acuminate (3).

*Mentum* somewhat cup-shaped, being narrowed in the middle.

*Palpi* short, robust, slightly pilose, 3-jointed, inserted towards the base of the labium, basal joint the smallest, 2nd trigonal, 3rd ovate. *Labium* transverse-cordate, ciliated (4).

*Clypeus* slightly produced. *Eyes* small prominent. *Thorax* transverse, convex, broadest at the posterior margin which is sinuated. *Scutellum* distinct. *Wings* ample. *Body* oval, slightly convex. *Tibiæ* simple, with a pair of small spurs at the apex on the internal side. *Tarsi*, anterior 3-jointed in the males (5), the basal and terminal joints long, of equal length; 4-jointed in the females (5); remainder 4-jointed in both sexes, the basal joint the longest. *Claws* simple. *Pulvilli* none (5 †, a hind leg).

PICEUS *Fab. Mant. Ins.* 1. 46. 11. *Panz.* 1. 22. & 2. 7. *Ent. Syst.* v. 1. pars 2. p. 499. n. 9.—*undulata Marsh.* 140. 6.—*rufa Marsh. lunaris Fab.*—*brunneus Panz.* 57. 21.—*variabilis Gyll.* 3. 390.

Dull castaneous, thickly clothed with very short pubescence. Head piceous punctured; clypeus ferruginous; eyes black. Thorax punctured, posterior angles not very obtuse, a fovea on each side at the base. Elytra rather rough with 10 punctured striæ on each; the margin, a large irregular spot on each shoulder, a spot on each side, an interrupted sinuated fascia a little below the middle, and a round spot near the apex of each elytron, ochraceous, the pubescence covering them of the same colour. *Antennæ* palest at their base. *Legs* pale ferruginous. Beneath dull castaneous.

*In the Author's and other Cabinets.*

OUR genus having been separated from *Ips* by Fabricius as early as the year 1792, the name he has applied to it of *Mycetophagus* has a prior claim to that of *Tritoma* published by Geoffroy five years after, which, it is to be regretted, Fabricius has misapplied, by designating a tetramerous insect by it.

We cannot help expressing some surprise, that out of the many systems that have been proposed, none should have released *Mycetophagus* from its present unnatural situation: viz. from the *Xylophagi* or *Trogossitarii* of Latreille; for, admitting that the 3-jointed tarsus of the male is a mere exception (there is not a rudiment even of a 4th, indeed the length of the basal joint is equivalent to the first 2 in the other sex), it surely would better associate with *Tritoma* and *Triplax* at the end of the same section. Upon comparing, however, the trophi and antennæ of our genus with those of *Tetratoma* (plate 123), we trust that it will be admitted that there is not only a great resemblance but an absolute affinity, which must conduct *Mycetophagus* to *Tetratoma*, and both probably to the *Silphadæ* of Leach, according to our view given in the folio accompanying the plate above alluded to; for my opinion is daily strengthened that the organs of manducation, in the *Coleoptera* at least, will form the most natural divisions for families, and that the antennæ alone will frequently supply the best generic characters.

The following are indigenous insects, and have been all illustrated by Panzer; we have therefore selected the one that has not been figured in any British work: it is a variety of the female. All the species are found in dry boleti from March to October.

1. *M. 4-pustulatus* Linn., Don. 6. 185. 2.—*4-maculatus* Fab., Panz. 12. 9.
2. *piceus* Fab.
3. *atomarius* Fab., Don. 15. 538. 2. Panz. 12. 10.
4. *multipunctatus* Fab., Don. 15. 538. 1. Panz. 12. 11.  
—*varia* & *similis* Marsh. are varieties.

The following have only 3 joints of the antennæ incrassated, tarsi the same as the others: they form the genus *Triphyllus* Meg., Dej.

5. *bifasciatus* Lat., Gyl., Panz. 2. 24.—*signatus* Panz. 57. 20.
6. *fumatus*—*Dermestes* Linn.—*Cryptophagus variabilis* Payk.
7. *ferrugineus* Marsh. 125. 31.
8. *punctatus* Fab., Panz. 12. 12.—*humeralis* Marsh., Don. 15. 538. 3.

The plant appears to be *Boletus* (*Leccinum* Micheli) *subtomentosus* Linn.





*Graminaceae. 157.*

## LEUCANIA LITORALIS.

The Sea-shore Wainscot.

ORDER Lepidoptera. FAM. Noctuidæ *Lat., Leach.**Type of the Genus Noctua pallens Linn.*LEUCANIA *Oeh.*—*Heliophila Hüb.*—*Noctua Linn., Fab., Haw.*

*Antennæ* rather long, robust, setaceous, nearly alike in both sexes, inserted on the crown of the head close to the eyes, composed of numerous transverse joints covered with scales above, thickly ciliated beneath (fig. 1).

*Maxillæ* setaceous, nearly as long as the antennæ (3).

*Labial palpi* not longer than the head, nearly vertical, approximating, thickly covered with long scales, excepting the last joint upon which they are short (4); 3-jointed, basal joint horizontal, subreniform, 2nd long, slightly attenuated, 3rd slender, elongate-ovate (4 a).

Head *subtrigonal*. Thorax *woolly, not crested*. Abdomen of the males *linear, tufted at the apex*; of the females *elongate conic*. Wings *deflexed when at rest, anterior rather narrow, and acute at the apex*; *nervures appearing raised*. Thighs *thickly covered with long woolly scales*. Tibiæ, *anterior short with a dilated spine on the internal side, 2nd pair terminated by very long spurs, the 3rd pair having also 2 above the apex*. Tarsi *long 5-jointed, producing 3 rows of bristles beneath, the basal joint long in the 4 posterior*. Claws *bifid*. *Pulvilli distinct (8, a fore leg)*.

Larvæ *with 6 pectoral, 8 abdominal, and 2 anal feet*.

Pupæ *inclosed in a web*.—Ochsenheimer.

LITORALIS *Nob.*

Pale and dull ochraceous. Antennæ pale above, dark beneath. Abdomen darkest towards the apex. Superior wings fuscous in the middle with a white stripe down the centre, slightly produced midway at the nervure, and furcate towards the extremity, 3 small white stripes upon the nervures near the apex, and 6 fuscous lines between the nervures at the posterior margin. Cilia fuscous. Inferior wings white tinged with yellow. Underside whitish, thorax and abdomen pale and dull ochraceous, with a tuft of black hair at the base of the latter.

*In the Cabinet of Mr. Dale.*

*LEUCANIA*, a genus of Ochseneimer, approaches very near to two others of the same author, *Nonagria* and *Simyra*: the former of these, however, is characterized by its shorter and broader wings more rounded at the apex, as well as by a longer and more slender abdomen; and the caterpillars live together in the stalks of reeds, feeding upon the pith and undergoing their transformation there, in which they resemble the genus *Gortyna* that follows them: the males of the latter (*Simyra*) have strongly serrated antennæ, and the larvæ undergo their metamorphosis in a thick papyraceous web attached to a leaf, as represented by Sepp.

The following are British species:

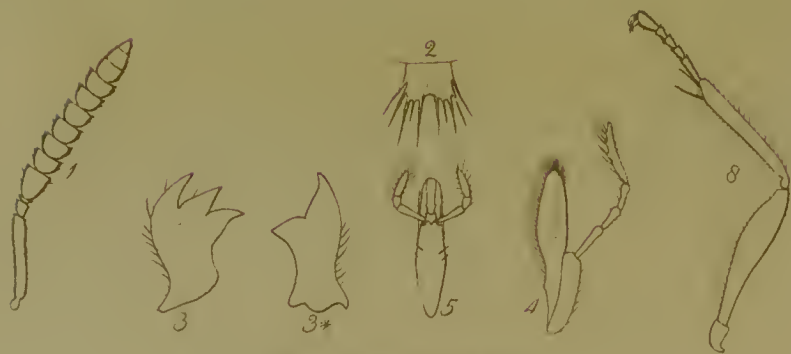
1. *L. comma* *Lin.*—*turbida* *Hüb.* Found in lanes, &c. from the beginning of June to the middle of July.
2. *litoralis* *Nob.* This unique specimen appearing to be undescribed, we have named it from its locality, it having been taken the 8th of July 1824 off some rushes upon the sand hills at Mount Misery, near Christchurch, on the coast of Hampshire.
3. *punctina* *Haw.*—*Ectypa* *Hüb.* July; shady places.
4. *pallens* *Lin.* July to September; meadows, hedges, and gardens.
5. *rufescens* *Haw.*—*lutosa* *Hüb.*? July and August; marshes, gardens, &c.
6. *obsoleta* *Hüb.*—*fuligosina* *Haw.* End of July; shady places.
7. *pudorina* *Hüb.* mas.—*impudens* *Hüb.* fem.
8. *fulva* *Hüb.* July; Whittlesea Meer.
9. *pygmina* *Haw.* August; skirts of woods.
10. *geminipuncta* *Haw.*, *Eut. Trans. pl. 9. fig. 1.* August or September; marshes, Hackney, Mr. Hatchet.

The last species may belong to the genus *Nonagria*, but we cannot at present decide with accuracy, for want of specimens.

The plant *Festuca rubra* var.? (Creeping Fescue-grass) was gathered on the sea coast.







*Chalcididae*

## PERILAMPUS PALLIPES.

ORDER Hymenoptera. FAM. Cynipsidæ *Lat., Leach.*

*Type of the Genus Cynips Italica Fab.*

PERILAMPUS *Lat.*—*Diplolepis Fab., Panz.*—*Chalcis Jur., Panz.*—*Cynips Fab., Oliv., Lat.*

*Antennæ* alike in both sexes, approximating, inserted in the middle of the face, geniculated, pubescent, 13-jointed; basal joint long slender, 2nd small cup-shaped, 3rd like a ring, the remainder forming a long robust, subfusiform mass, the first joint the longest, the 6 following cup-shaped, the 3 last sometimes obscure, the apical one minute conical (fig. 1).

*Labrum* concealed beneath the clypeus, very minute, quadrate, emarginate producing spines terminated by bristles (2).

*Mandibles* large concave, one being trifid (3), the other bifid (3\*).

*Maxillæ* long, terminated by a single concave lobe, coriaceous and hairy externally, membranous and ciliated internally. *Palpi* long, filiform, basal joint longer than the 2nd or 3rd, which are of equal length, terminal joint the longest, subfusiform, slightly bent, pilose, sinuated internally (4).

*Mentum* elongated, conical posteriorly. *Lip* rather long concave, edges conniving. *Palpi* long, 3-jointed, basal joint the longest, clavate, 2nd minute, 3rd elongate conic, pilose (5).

*Clypeus distinct.* Head short, vertical, as broad as the thorax: face orbicular, concave above to receive the basal joint of the antennæ. Eyes rather small lateral. Ocelli 3, in a curved line. Thorax transverse cylindrical, prothorax very short. Scutellum large more or less triangular, projecting over the Abdomen which is short depressed, rhomboidal or triangular. Ovipositor concealed. Wings as long as the abdomen, pubescent, transparent, superior with a nervure running from the base, parallel to the costa as far as the middle, where it extends a short space along that margin, and is furcate at the extremity; inferior small, subanceolate, with a nervure parallel to the costa, extending only half their length. Legs slender. Thighs slightly clavate, nearly straight. Tibiæ simple terminated by 2 spines. Tarsi 5-jointed, basal joint a little the longest, terminal incrassated. Claws and Pulvilli distinct (8, a fore leg.)

PALLIPES *Nob.*

*Female.* Head minutely punctured, æneous; face black; eyes cinereous; antennæ ferruginous, 1st and 2nd joints black. Thorax and scutellum dull brassy green, regularly reticulated. Abdomen quadrangular, chalybeous, slightly pubescent. Wings scarcely stained with yellow, iridescent, nervures fuscous. Legs violaceous, apex of thighs and a portion of the apex of the anterior tibiæ, especially on the inside ochraceous, tarsi of the same colour; pulvilli black.

*Male* smaller, abdomen obovate or conic, obtuse.

*In the Cabinets of Mr. Stephens and Mr. Bainbridge.*

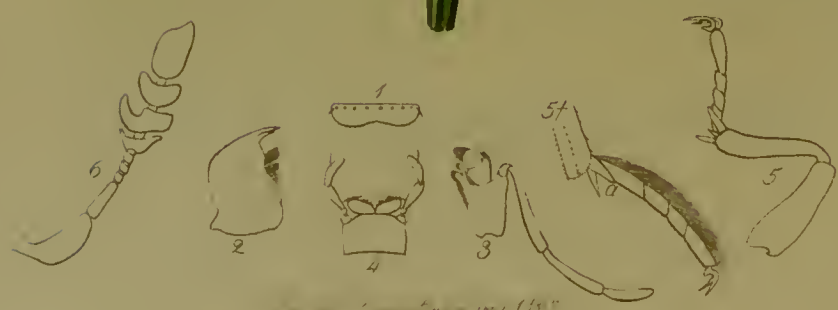
*PERILAMPUS*, a genus containing several European species, was separated from *Cynips* and established by Latreille in his *Genera Crustaceorum*. The wings of the *Cynipsidæ* seldom furnish generic characters; and in many other tribes of *Hymenoptera*, their structure is not available for separating small groups, they consequently become rather characteristic of families or of tribes; and this led Jurine (whose system was built upon their conformation) into the error of uniting the Fabrician genera of *Ichneumonidæ*, and considering that vast group as a genus. The same system compelled him to sink many excellent genera amongst the bees, and prevented him from admitting of any material division in the *Cynipsidæ* or *Diplolepidæ*. The antennæ however, when carefully examined, will supply the deficiency by furnishing the best generic characters for general use; for although we believe that the trophi are of the first importance, it is not possible for the student to examine those parts in every specimen; and characters obtained from more convenient parts will enable him to decide upon affinities after a genus is firmly established by dissection. At present we shall not enter into the merits of our genus: it may not be amiss, however, to remark, that the singular manner in which the labrum is produced into spines, and the same disposition in the terminal joint of the maxillary palpi, have not been before noticed.

The metallic hue of the bodies render the *Perilampi* striking and beautiful objects, although inferior in splendour to their neighbours. They are parasitic, feeding in the larva state upon caterpillars, and forming an oval cocoon, which Reaumur represents suspended from a branch by a thread.

The species figured not agreeing with Fabricius's description of *Cynips ruficornis*, which is said to have a black head and thorax, nor with Panzer's *Chalcis violacea*, which has the 4 anterior legs entirely ochraceous, we have considered it as a nondescript, and called it *P. pallipes*, from its pale feet. Mr. Bainbridge took a male at Darent; and the female figured was taken off an umbelliferous plant by Mr. Joseph Standish at Dover the end of last July.

The pretty plant in the plate, *Antirrhinum spurium* (Round-leaved Fluellin), was gathered upon the heights at Dover.





*Phyllotreta vittula* (1852)

## HYDROPHILUS CARABOIDES.

ORDER Coleoptera. FAM. Hydrophilidæ *Leach., Lat.**Type of the Genus Dytiscus caraboides Linn.*HYDROPHILUS *Geoff., Fab., Lat., Leach.*—*Dytiscus Linn.*

*Antennæ* inserted at the base of the mandibles, close to the eyes, under the clypeus; shorter than the head, naked, 9-jointed, basal joint robust bent, 2nd slender as long as the 3 following united, which are subquadrate, the remainder forming a perfoliate, velvety club, the 1st joint the smallest, 2nd and 3rd transverse, 4th ovate, truncated obliquely (fig. 6).

*Labrum* very short and broad, naked, emarginate (1).

*Mandibles* rather large, bent acute and bifid at the apex, internal edge thin and ciliated (2).

*Maxillæ* small, producing 2 lobes, external one large, composed of 2 joints the 2nd membranous and ciliated with strong hairs at the apex; internal lobe cleft, the superior portion minute ciliated, and terminated by a rigid bristle, the inferior lobe producing strong bristles at the apex, and ciliated on the margin.

*Palpi* very long, naked, 4-jointed, basal joint minute, 2nd long robust clavate, 3rd not so long, 4th shorter subfusiform, slightly bent (3).

*Mentum* transverse quadrate, sinuated at the anterior angles.

*Lip* broad bilobed, ciliated, coriaceous in the disk, sides membranous. *Palpi* remote, attached to the membranous sides of the lip, short, 3-jointed, basal joint minute, 2nd clavate, 3rd bent, subfusiform (4).

*Clypeus large entire, covering the mouth. Eyes remote prominent, reniform. Thorax keeled beneath, terminated in a spine at the extremity of the poststernum not extending beyond the trochanters. Scutellum triangular. Coleoptera ovate very convex. Wings ample, formed for flying. Legs rather long. Tibiæ furnished with strong spurs at their apex. Tarsi simple, alike in both sexes, anterior the slenderest (5); 4 posterior longer, compressed, producing hair down the sides for swimming; 5-jointed, basal joint nearly obsolete (5 † a), 3 following short in the anterior pair, the 2nd longer than the terminal one in the posterior. Claws very much bent, dentate at their base.*

CARABOIDES *Linn. Syst. Nat. 2. 664. 2.—Faun. Succ. 765.—Marsh. 402. 2.*

Black shining, minutely but not deeply punctured. Head and thorax with a few large punctures on their sides, the former with an impression close to the eye, the latter with 2 in the disk. Elytra irregularly punctured on the outer margin, each having 4 irregularly-punctured striæ. Beneath dull, pubescent. Antennæ and palpi ferruginous, the club of the former black. Tibiæ and tarsi castaneous black, the hair upon the latter ferruginous.

*In the Author's and other Cabinets.*

THE *Hydrophili*, as the name implies, delight in the water:—  
“ They may be seen (says the author of the *Elements of Natural History*) in ponds during the summer, frequently rising to the surface for fresh air; they swim well, and when laid on their back restore themselves by whirling round; they rest in the shade, keep in water during the day, come abroad in the evening, and are sometimes found sitting on the plants by the edge; they fly by night; after having been long out of the water they cannot dive but with difficulty.”—Latreille observes, that the *Hydrophili* when in the water conceal their antennæ under the sides of the head, and advance the palpi; but when they are taken out of that element, they develop those organs, from which it appears that the antennæ are of little use to them when immersed. The larvæ, which reside also in the water, are carnivorous: the perfect insects are said to feed principally upon aquatic plants.

The genus *Hydrophilus* is distinguished from *Hydrous* by the simple tarsi of the males, and from *Hydrobius* of Leach by the acuminate sternum.

The species figured, the only one known to inhabit our island, is exceedingly abundant in the ponds and ditches round London, where it may be found from January to June, and longer probably, living through the winter: in some parts of the country it is less plentiful.—We are indebted to Mr. Chant for the sight of a specimen taken in August at Islington, which at first appeared to be a new species, being of a dull brown colour with ochraceous legs; but after a careful examination we think these differences arise from its being an immature specimen.

The plant is *Poa fluitans* (Flote Meadow-Grass).





ACCORDING to our late view of the *Silphidæ*, *Cryptophagus* will follow *Mycetophagus*, to the 2nd division of which (viz. *Triphyllus*) it is nearly related; and *Antherophagus* is certainly closely allied, one sex having only 4 joints in the posterior pair of tarsi: *C. Typhæ* Gyll. being more related to *Byturus*, will either be added to that, or must constitute a new genus.

The following is the arrangement we propose of the British species: but it is necessary to remark, that we have had no opportunity of examining No. 9, and we are not positive respecting Nos. 4, 7 and 8, not having been able to get a clear view of the posterior tarsi.

1. *C. bituberculatus* Kirby's Mss. End of September, in puff-balls.
2. *Populi* Payk. August, September, October, in decayed poplars. I once took this insect in abundance in an old post near Norwich.
3. *fumatus* Marsh. 110. 12.—Gyll. In houses.
4. *Lycoperdi* Fab., Gyll.—Fungorum Panz. 39. 14.—*Corticaria rufa* Marsh. Inhabits *Lycoperdon Bovista*, Latticed puff-ball.
5. *affinis*.
6. *cellaris* Fab., Oliv. 2. tab. 1. fig. a, b.—*Scanicus* Linn.? —*denticulata* Marsh. August, September, October; under bark, and in houses.
7. *serratus* Gyll. 1. 171. 7. August, September, October; under bark, and in female flowers of willows.
8. *Ulicis* Kirby's Mss.
9. *Abietis* Payk.—Vini Panz. 40. 14?—*obcordata* Marsh. From spring to autumn; in the leaves of the spruce-fir.

The local plant figured, *Lathræa squamaria* (Great Toothwort), we found in abundance the end of April near Glanville's Wootton, Dorset.





## PTEROPHORUS SPILODACTYLUS.

## The Wormwood Plume.

ORDER Lepidoptera. FAM. Alucitadæ *Leach*. Pterophorites *Lat*.

*Type of the Genus Alucita pentadactyla Linn.*

PTEROPHORUS *Geoff., Lat., Fab., Leach.*—*Alucita Hüb., Haw.*—*Phalæna (Alucita) Linn.*

*Antennæ* inserted close to the eyes on the crown of the head, setaceous, composed of numerous elongated joints covered with long scales above, sometimes hairy beneath (fig. 1 a); basal joint robust subovate, entirely clothed with scales (1).

*Maxillæ* very long and slender (3).

*Labial palpi* shorter than the head, slender, slightly curved upward, 3-jointed, 1st joint robust, broadest at its base, 2nd not so long, somewhat attenuated, 3rd as long as the 2nd, but more slender (4 & 4 a).

Head *globose*. Eyes covering the side of the head (7, the head in profile). Wings extended horizontally when at rest, anterior composed of 2, posterior of 3 rays, the abdominal one sometimes having a lobe on the internal side. Abdomen long, slender, linear in the males, subfusiform in the females. Legs long, hinder pair the longest. *Cocæ* very long. Thighs rather short. *Tibiæ*, anterior not so long as the basal joint of the tarsus, having a flat process or bundle of scales on the internal side, 2nd pair terminated by two long spurs, 3rd pair very long, being furnished with 2 pair of spurs. *Tarsi* 5-jointed, basal joint the longest. Claws very minute (8, a fore leg).

Larvæ with 16 feet, sparingly covered with hair.

Pupæ pilose, suspended by a thread.

SPILODACTYLUS *Nob.*

White, inclining to straw-colour. *Antennæ* subochraceous beneath. Eyes blackish. Head thorax and abdomen sometimes rather darker straw-colour. Wings, anterior with the costal margin and the base pale fuscous, a rhomboidal spot at the middle of the costa extending obliquely across the wing, interrupted by the nervure, fuscous; 2 spots near the apex upon the superior plume and 2 or 3 upon the inferior one of the same colour: inferior wings pale fuscous, variegated with whitish; 4 anterior legs above, and thighs of posterior pair fuscous. Beneath white, fuscous at the base of the wings and spotted or variegated with the same colour towards their extremities.

*In the Cabinets of Mr. Sparshall and the Author.*

THE little moths included in the genus *Pterophorus* are remarkable for the delicacy and beauty of their form, the wings being divided and having the appearance of 10 or fewer feathers. Reaumur has given figures of the caterpillar and pupa, which last is remarkable in its form. Mr. Dale has reared a species, and I have found and bred *P. tetradactylus* myself: the perfect insects fly slowly in the evening.

Mr. Haworth's *Lepidoptera Britannica* (in which our species are described with the exception of 5) being in few hands, we shall give the best systematic arrangement of the group we are able.

A. Abdominal ray not lobed.

1. *P. tetradactylus* Vill., Haw.
2. ochrodactylus Fab.? Haw. Mss.
3. pentadactylus Linn., Don. 4. 110.
4. galactodactylus Hüb., Haw.—albodactylus Fab.
5. spilodactylus Nob.
6. tridactylus Linn.
7. citridactylus Haw. Mss.
8. leucodactylus Hüb., Haw., Fab.?
9. pterodactylus Linn., Hüb., Haw.
10. monodactylus Linn.? Haw., Reaum. 1. 20. f. 7—18.
11. tephrodactylus Hüb.
12. bipunctidactylus Vill., Haw.
13. fuscodactylus Vill., Haw.
14. pallidactylus Haw.—ochrodactyla Hüb.?
15. migadactylus Haw., Fab.?
16. phæodactylus Steph. Mss.
17. lunædactylus Haw. 477. 10.

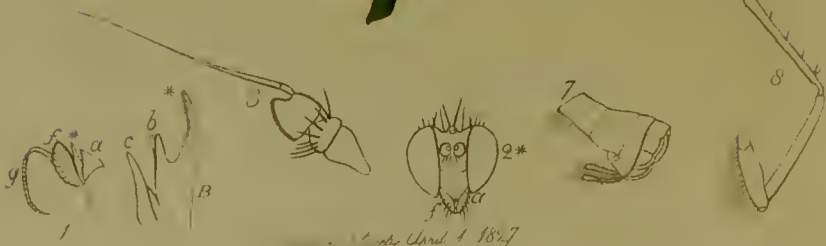
B. Abdominal ray producing a bundle of scales forming a lobe on the internal margin.

18. *P. didactylus* Linn., Don. 9. 318.—β. heterodactylus Vill.
19. rhododactylus Fab., Hüb.
20. trigonodactylus Haw. 478. 13.
21. calodactylus Fab., Hüb.
22. tesseradactylus Linn.
23. punctidactylus Haw. 479. 16.
24. microdactylus Sam.—parvidactyla Haw.

For a male of the rare species figured we are indebted to Mr. Joseph Sparshall, who met with it in some abundance upon the plant which accompanies it, on the 8th of July 1824, upon a heath near Mildenhall, Suffolk.

The plant is *Artemisia Absinthium* (Common Wormwood).





April 1 1877



## MEDETERUS NOTATUS.

ORDER Diptera. FAM. Dolichopodæ *Lat., Leach.*

*Type of the Genus Dolichopus regius Fab.*

MEDETERUS *Fisch., Meig.*—*Dolichopus Lat., Fab., Fall.*—*Hydrophorus Fall.*—*Musca Fab., Panz.*

*Antennæ* inserted rather above the middle of the face, approximating, shorter than the head, 5-jointed, basal joint pyriform truncate, 2nd transverse, surrounded by strong bristles, 3rd compressed very pubescent, conical, emarginate near the apex, 4th joint inserted on the side of the 3rd, forming with the 5th a seta, which is very long and naked (fig. 3).

*Labrum* very horny, attenuated and pubescent at the apex (\*), furcate near the middle (B, b), dentated near the base.

*Tongue* very horny, flat, dilated at the base (B, c).

*Mandibles* and *maxillæ* none.

*Palpi* lying close to the clypeus (2\*, f), lamelliform, rigid, pilose (1 f).

*Lip* large short bilobed (1 g).

Head *subglobose*. Lip *projecting*. Clypeus *subtrigonal* (1 a & 2\* a).

Eyes *lateral very long*. Hypostoma *narrower in the males than females*. Ocelli 3 *in triangle*. Thorax *subquadrate*. Scutellum *small, semicircular*. Abdomen *linear, clavate, producing 2 incurved, hairy appendages beneath in the males (7) : somewhat conical in the females*. Wings *much longer than the body incumbent, parallel containing about 10 cells*. Halteres *small*. Legs, *middle and posterior pair very long, the latter being rather more robust*. Coccæ, *anterior very long*. Tibiæ *simple*. Tarsi *5-jointed, basal joint long, 2nd the shortest, in the anterior pair of the males (in the type)*. Claws *very much bent*. Pulvilli *bilobed (8, a fore leg)*.

NOTATUS *Fab. Ent. Syst. v. 4. p. 341. n. 120.*—*Meig. Syst. Besch. 4. 62. 6.*

*Female* shining, naked. Head dull green, hoary behind, with a few black bristles. Face slightly hoary. Eyes dull cupreous. Thorax and scutellum of the same colour, the former very long, hoary at the sides before the wings, with two blackish stripes and 2 rows of short bristles down the back and a sinuated line and a few long bristles on each side. Abdomen very short, burnished, æneous and cupreous. Wings fuscous, costal and a portion of 2 other cells pale ochre; the black nervures are margined with fuscous; a spot upon a nervure near the posterior margin and 2 others upon a transverse nervure blackish. Thighs cupreous, incrassated at the base of the anterior pair. Tibiæ green. Tarsi bluish black.

*In the Cabinets of Mr. Hatchett, Mr. Ingpen, and the Author.*

*MEDETERUS* has been separated from *Dolichopus*, and may be distinguished from it by its long thorax, naked seta of the antennæ, by the longer and more slender appendages to the abdomen of the males, by the transverse nervure of the wings, which is nearer the margin, by the great length of the legs, and the simple posterior tarsi.

From the want of male specimens of the other species, I am incapable of ascertaining whether the remarkable structure of the anterior tarsi of *M. regius* be a specific or generic character: the hairs on the 2nd joint are glandular at the apex, and the 3rd and 4th joints are terminated by a fleshy substance, which is well adapted to its habits of life, and lead us therefore rather to consider it as an organization peculiar to itself.

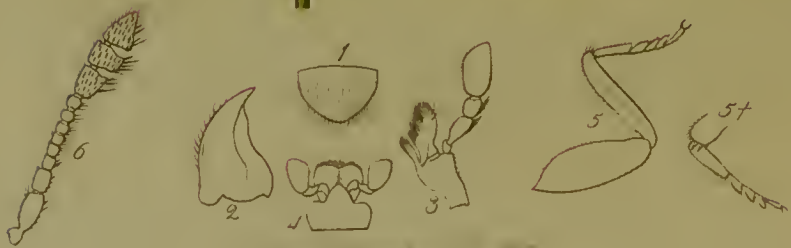
1. *M. notatus*.—The first specimens that I noticed of this handsome species, of which there is no figure recorded, were in the cabinet of Mr. Hatchett. Since that period Mr. Ingpen has found a specimen in Kentish-town fields, and another upon the plant represented in the plate, near Bromley, Kent, on the 1st of June.

2. *M. regius* *Fab., Meig.*—*virens* *Panz.* 54. 16.—I first observed this pretty insect resting upon the trunks of trees in the romantic neighbourhood of Lyme-mouth, North Devon, the middle of September: and the beginning of the same month last year I met with it in abundance near Black-gang Chine in the Isle of Wight. The face of the cliff in this neighbourhood is perpendicular and very wet, the water frequently descending in showers from the top: in these situations both sexes of this species delighted, flying when disturbed through the falling spray, and alighting upon the wet surface, from which they stood perfectly clear by placing their long legs not obliquely, but at right angles from the body.

3. *M. viridis* *Meig.?* *vol.* 4. *p.* 60. *n.* 2.—This is a smaller species; for a specimen of which I am indebted to Mr. Francis Walker, who took it in the vicinity of Southgate.

The plant is *Chrysanthemum Leucanthemum* (Ox-Eye).





*... ..*

## THROSCUS OBTUSUS.

ORDER Coleoptera. FAM. Elateridæ Lat. Byrrhidæ Lat.,  
Leach.

*Type of the Genus Elater dermestoides Linn.*

THROSCUS Lat., Leach.—Trixagus Gyll.—Dermestes Fab., Payk.,  
Ill.—Elater Linn., Geoff., Oliv.

*Antennæ* inserted before the eyes, as long as the thorax, pilose, concealed when at rest in grooves beneath the thorax, 11-jointed, basal joint robust ovate, 2nd subquadrate, the 6 following smaller, subglobose, the remainder forming a perfoliate club, the 1st joint obovate truncate, 2nd transverse, 3rd trigonate (fig. 6).

*Labrum* triangular, convex, ciliated and pilose (1).

*Mandibles* alike, broad at the base, bent, acute, internal edge thin, external hairy (2).

*Maxillæ* small, bilobed, membranous and pubescent at their extremities, internal lobe minute, external large ovate. *Palpi* 4-jointed, pubescent, basal joint minute, 2nd large clavate, 3rd globose, 4th large, subovate compressed (3).

*Mentum* transverse, produced into a lobe in the centre. *Lip* membranous thickened down the centre, somewhat cordate, ciliated.

*Palpi* membranous, 3-jointed, inserted on each side the lobe of the mentum, 3-jointed, basal and 2nd joints minute, 3rd very large obovate, pubescent, compressed (4).

Head bent down so as nearly to conceal the mouth. Thorax produced beneath between the cocæ, semicircular, broadest at the base, acuminate at the posterior angles. Scutellum triangular. Wings longer than the elytra and twice as broad. Legs submembranous, received into grooves in the abdomen when at rest. Thighs broad flat. Tibiæ linear armed with several rigid bristles at their apex, having a groove on the external side to receive the Tarsi which are 5-jointed, basal joint the longest, elongate ovate in the 4 posterior (5†), penultimate joint bilobed, terminal slender. Claws small (5, a fore leg).

OBTUSUS Westwood's MSS.

Dull castaneous, shining, covered with short, decumbent yellowish hairs. Head rounded, coarsely punctured. Eyes black. Thorax coarsely punctured, convex, sinuated at the base, the centre being produced and elevated close to the scutellum, posterior angles very acuminate. Elytra striated, minutely punctured. Antennæ and legs ferruginous. Tarsi ochraceous.

*In the Cabinets of Mr. Cooper and Mr. Westwood.*

MONS. LATREILLE in his *Histoire Naturelle* placed *Throscus* next to *Elater*, and after removing it to the *Byrrhidæ* in his *Genera Crustaceorum* and *Considérations générales*, he has again taken up his first opinion in the *Familles Naturelles*, the last of his

valuable works. Excepting the power it possesses of concealing its antennæ and legs in grooves, there does not appear to be any good reason for placing *Throscus* with the *Byrrhidæ*, for neither the trophi nor antennæ agree with those of the genera contained in that family. Linnæus had placed our insect from analogy with the *Elaters*, and Latreille for the very best reasons, viz. the affinity of the trophi, has finally adopted the same arrangement: we shall therefore offer no apology for departing from the more generally received opinion in this country, but merely observe that the *Elaters* are provided with the same means of protecting their antennæ; and we consider the form of this organ a generic and not a family character, since they are sometimes even flabellate, at others pectinated or serrated in the males and simple in the females.

It is probable that *Throscus* lives in wood in the larva state. No species has been described until now, excepting

1. *T. dermestoides* *Linn. Syst. Nat.* 2. 656. 38.—*adstrictor Payk., Ill., Fab., Panz.* 75. 5.—*clavicornis Oliv.* 2. pl. 8. f. 85.

Taken the middle of June and July by Mr. Bainbridge with *Anaspides*, from white thorns and umbelliferous plants, near Bexley, Kent; also by Mr. Westwood in sand-pits and upon paling at Coombe Wood.

For the following remarks we are indebted to Mr. Westwood.

2. *T. obtusus* *Westw. Mss.—Nob.*

“My new species is distinguishable from *T. dermestoides* not only by being much smaller, of a more castaneous colour, and a broader outline (whence my name *obtusus*), but also by the front of the head wanting the two elevated lines observable in that species. I have as yet seen but three specimens of it; one of them was found at the foot of a pollard oak in Plaistow Marshes by my friend A. Cooper, Esq. R.A., and the other two specimens were beaten by myself likewise from an oak-tree near the village of Ensham (between Oxford and Witney) at the beginning of last September.”

It may be further observed, that *T. dermestoides* has the thorax minutely as well as coarsely punctured, the elytra more deeply striated with punctures, having an irregular row of large punctures between them.

The plant is *Dianthus Armeria* (Deptford Pink) from Darent Wood.





*Op. 2. c. 11. 1/2. 1. 1. 1.*



## STENUS KIRBII.

ORDER Coleoptera. FAM. Staphylinidæ *Lat., Leach.**Type of the Genus Stenus Juno Payk.*STENUS *Lat., Fab., Payk., Grav., Panz., Gyll., Leach.*—*Pæderus Oliv.*  
*Staphylinus Linn., Geoff., Marsh.*

*Antennæ* not very remote, inserted close to the eyes, at the base of the clypeus, clavate, pilose, pubescent towards the apex, 11-jointed, 1st and 2nd joints robust, the former elongated, 4 following slender, the 3rd joint the longest, the 6th and 7th of equal length, the latter more robust clavate, 8th subpyriform, remainder robust, 9th and 10th ovate, terminal joint conical (fig. 6).  
*Labrum* transverse ovate, pilose, slightly emarginate (1).

*Mandibles* long, bent, acute, having a large tooth on the internal margin, below which they are serrated (2).

*Maxillæ* broad, bilobed, strongly ciliated, internal lobe the larger, external rather narrow. *Palpi* long 4?-jointed, basal joint very minute, 2nd long slender, 3rd longer, subfusiform, pilose, 4th long robust, pilose, subclavate truncate (3).

*Mentum* subquadrate coriaceous, carinated in the centre, especially anteriorly (4 a). *Lip* very long, retractile, subcoriaceous, with a dilated membrane extending half its length from the base (b), membranous and dilated at the apex, producing a lobe on each side and 2 small processes from the centre of the anterior margin to which are attached the *Palpi* which are small and compressed 2-jointed, the terminal one being ovate and slightly pilose, the basal one slender, subclavate (c).

Head *large subtrigonal*. Eyes *large, subglobose*. Thorax *elongate subcylindric, ovate, truncated, narrower than the head*. Scutellum *very minute*. Coleoptera *quadrate, scarcely broader than the head, not covering half the body, posterior angles sinuated*. Wings *shorter than the Abdomen which is long, linear, convex, sometimes margined at others immarginate*. Coccæ *very short*. Thighs *subfusiform*. Tibiæ and Tarsi *slender, the latter 5-jointed, basal and terminal joints the longest, penultimate joint emarginate*. Claws *simple (5, a fore leg)*.

KIRBII *Leach's MSS.*

Black shining, shagreened. Head very large, thickly punctured, clothed with short aureous hair. Palpi ochraceous, fuscous at their apex. Antennæ black, paler at the base. Eyes pale cinereous. Thorax much narrower than the head, obovate, the surface uneven. Elytra not broader than the head, short, quadrate, coarsely punctured, with a large ochraceous round spot on each below the middle. Abdomen margined, less coarsely punctured, clothed with auroous pubescence. Legs ochraceous slightly pubescent, apical half of the thighs, base and apex of tibiæ and tarsi, excepting the base of the 1st joint, fuscous. Beneath black, shining, punctured.

*In the Cabinets of the British Museum, Mr. Stevens, and the Author.*

THIS curious and extensive genus was first established by Latreille, who in his *Histoire Naturelle* has pointed out the differences between it and *Pæderus*. Having given at folio 107 the characters of *Dianous* we shall only make an observation upon the lip, which is as remarkable as any amongst the *Coleoptera*: When the lip (which does not appear to be articulated) is exerted, the maxillæ are so remote that it is deprived of their combined assistance; nature has therefore provided the lip with similar lobes to those of the maxillæ, which are by analogy a second pair of palpi. The appearance of a minute joint in the figure, if correct, will make the maxillary palpi 4-jointed, but we may have been deceived.

The *Steni* are found at all seasons in damp situations, upon moist banks, sides of rivers and ditches, under rejectamenta and stones, upon aquatic plants, &c. Mr. Bainbridge has remarked, that individuals he has thrown upon the water, darted (like *Velia* or *Gerris*) 18 or 20 inches upon the surface.

There are probably 50 British species of this genus, for our own cabinet contains nearly 40 species; but a great portion of them being undescribed, we can only record the following.

A. Elytra with a pale spot on each.

1. *S. biguttatus* Marsh., *Samouelle*, pl. 4. f. 13.—*bimaculatus* Gyll.—*Juno* Grav.
2. *bipustulatus* Linn., Marsh.—*biguttatus* Fab., Panz. 11. 17.—*Don*. 16. 573.
3. *bipunctatus* Kirby's Mss.
4. *Kirbii* Leach., Steph., Nob.

B. Elytra immaculate.

I. Abdomen marginated.

\* feet pale.

5. *boops* Gr., Gyll.
6. *fuscipes* Gr., Gyll.
7. *circularis* Gr., Gyll.—*immunis* Marsh. var.  
\*\* feet black.
8. *Juno* Fab., Payk., Gyll.
9. *binotatus* Gr., Gyll.

II. Abdomen immarginate.

10. *cicindeloides* Gr., Gyll.
11. *clavicornis* Marsh.—*similis* Herbst.—*oculatus* Gr., Gyll.
12. *tarsalis* Gyll.—*clavicornis* Gr.
13. *pallipes* Gr., Gyll.

*S. Kirbii* inhabits the banks of the Croydon Canal, and may prove to be the male, or a small variety of *S. bipunctatus*; but as this is a MS. species of the learned author whose name our insect bears, should such be the case, it will not disturb the title by which we have the pleasure of distinguishing it.

The plant is *Lysimachia nemorum* (Yellow Pimpernel).





Carl. May 1 87

## AGROTIS CINEREA.

The light feathered Rustic.

ORDER Lepidoptera. FAM. Noctuidæ *Lat., Leach.**Type of the Genus Noctua Segetis Fab.*

AGROTIS Hüb., Och.—Noctua Linn., Fab., Lat., Haw.—Phalæna Don.

*Antennæ* inserted on the crown of the head close to the eyes, long setaceous, composed of numerous joints covered with scales above, strongly pectinated in the males especially towards the base (fig. 1); producing only bristles at the apex (1b): simple and pubescent beneath in the females (2).

*Maxillæ* as long as the *Antennæ*, robust, furnished with tentacula at the apex (3).

*Labial palpi* nearly vertical, divaricating, very robust, thickly clothed with long scales, the apical joint distinct, appearing truncated, the scales short (4): 3-jointed, coriaceous, basal and 2nd joints robust, of equal length, the former curved, the latter slightly attenuated and truncated obliquely; terminal joint small subovate, truncated obliquely (4a).

Head short, trigonate, thickly covered with scales. Eyes not very large.

Ocelli 2, close to the eyes near the base of the head. Thorax subquadrate, densely covered with scales. Abdomen somewhat depressed, sublunar in the males, conical in the females. Wings horizontal and crossing each other when at rest; superior generally narrowed towards the base. Legs; anterior the shortest. Tibiæ; anterior very short with a flat spine on the internal side; 2nd and 3rd pairs ciliated externally near the base and spurred at the apex, the latter long and having a pair below the middle. Tarsi 5-jointed, anterior short, basal joint of the 4 posterior long. Claws and Pulvilli small (8, a hind leg). Larvæ with 6 pectoral, 8 abdominal, and 2 anal feet.

CINEREA Hüb. *Noct. tab. 33. f. 155. mas. f. 156. fem.*—Och. *Schmet. v. 5. pars 1. p. 178.*—denticulata Haw. 133. 95.—obscura Hüb. *tab. 33. f. 157 & t. 104. f. 490. fem. var.*

*Male.* Head and thorax cinereous, anterior margin of the latter and the antennæ brown. Abdomen cinereous ochre. Superior wings cinereous inclining to griseous in the centre, with 3 denticulated brown strigæ, the 1st next the base abbreviated; the 2nd not far from the base; the 3rd curved, approaching the posterior margin; a sinuated suffused ferruginous striga in the middle, close to which is an auriculate stigma; and parallel to the posterior margin which is dotted with black, an obscure fascia; cilia variegated. Inferior wings white tinged with ochre, a pale spot near the superior margin and another towards the centre; nervures fuscous; posterior margin spotted fuscous. *Female* darker.

*In the Cabinets of Mr. Haworth, Mr. Stephens, and the Author.*

It is difficult to frame characters that will perfectly embrace all the varieties of form that this group exhibits; nevertheless it will be found that unless it be very much divided, any alterations will not only be imperfect but useless: for instance, if the species figured were withdrawn on account of the form of the wings, *A. exclamationis* must be separated also for the more important difference in the antennæ; yet there is such a harmony in the habits of this last and the type, that we do not think it prudent at present to go beyond making divisions of them, in the following order.

A. Antennæ pectinated in the males, I. nearly to the apex.

1. *A. nigra* Haw.—albicolon Fab.? 2. *A. fusca* Haw. 3. *A. cinerea* Hüb., Nob.

II. pectinated only half their length.

- |  |   |
|--|---|
| 4. <i>A. suffusa</i> Hüb., Och., Haw.—spinifera Vill., Haw.—spinula Don. 10. 345. 2 & 3.                   | trata, monilea, catænata and pectina of <i>Lepidopt. Brit.</i> may be varieties of <i>Segetum</i> . |
| 5. <i>Æqua</i> Hüb.—margaritosa Haw.—majuscula Haw. var.?  | 9. <i>A. affinis</i> .  |
| 6. <i>subterranea</i> F., Haw. 171. 31.  | 10. <i>clavigera</i> Haw.—subfusca Haw. var.?   |
| 7. <i>monostigma</i> Nob. from Mr. Plastead's collection.  | 11. <i>pupillata</i> Haw.   |
| 8. <i>Segetum</i> Hüb., Och.— <i>Segetis</i> F. Obs.corticca, connexa, venosa, spinula, nigricornuta, sub- | 12. <i>sagittifera</i> Hüb., Haw., Och.—clavis Don. 10. 340. 3.                                     |
|  | 13. <i>Hibernica</i> Haw. Mss.  |
|  | 14. <i>pascua</i> Nob. Isle of Wight.   |

B. Antennæ of the males producing fascicles of hair only.

- |  |   |
|--|---|
| 15. <i>A. cespitis</i> Hüb. Dartford Common.                     | 21. <i>A. nigricans</i> L., F., Haw.—fumosa F., Hub., Haw.? |
| 16. <i>autumnalis</i> Nob. October. New Forst. Chas. Lyell, Esq. | 22. <i>valligera</i> F., Hüb., Haw.                         |
| 17. <i>exclamationis</i> Linn., Haw.                             | 23. <i>obelisca</i> Hüb.?—obeliscata Haw.                   |
| 18. <i>picca</i> Haw. 220. 170.                                  | 24. <i>albilinea</i> Haw.— <i>Tritici</i> Linn. Cab.?       |
| 19. <i>corticca</i> Hüb., Och.—sordida Hüb., Haw.                | 25. <i>lincolata</i> Haw.                                   |
| 20. <i>ruris</i> Hüb., F.? Haw.—dubia Haw. var.?                 | 26. <i>radius</i> Haw.                                      |
|  | 27. <i>radiolus</i> Haw. Mss.                               |
|  | 28. <i>subgothica</i> Haw.                                  |

For the beautiful specimen of the male figured, I have to acknowledge my obligations to the Rev. C. S. Bird, who took it the middle of June; it has also been taken in clover-fields the beginning of the same month.

We are not acquainted with the larvæ of this genus, but they are probably great enemies to the agriculturist and the gardener; for the caterpillars of *A. segetum* devour the roots of corn; those of *A. valligera* feed upon grass, keeping under ground during the day; *A. exclamationis* upon the groundsel; and Mr. Haworth is of opinion that some of them called Bots by gardeners destroy the roots of lettuces and celery.

The plant is *Vicia sativa*, var. *angustifolia* (Common Tare or Vetch, with narrow leaves).





*Fig. 1. Pansy. 12.*



## COLAS DISPAR.

ORDER Hymenoptera. FAM. Cynipsidæ Lat., Leach.

*Type of the Genus Colas dispar Nob.*COLAS Nob.—Cleonymus Lat.—Pteromalus Dal.—Diplolepis Fab.—  
Ichneumon Linn., Fab.

*Antennæ* of the male longer than the head, geniculated, inserted in the middle of the face; 13-jointed, pilose, basal joint long, 2nd small cup-shaped, 3rd and 4th like rings, the 6 following cylindrical, decreasing in length, the remainder forming a long, indistinctly articulated conic compressed club (fig. 1):—of the female longer than the head, geniculated, pubescent, 12-jointed, basal joint long, 2nd short clavate, 3rd very minute, 6 following subquadrate, decreasing in length, the remainder forming a conical mass (1 a).

*Labrum* not discovered.*Mandibles* subquadrate, one with 3, the other with 4 teeth (3).

*Maxillæ* long, terminated by a single concave lobe, coriaceous and hairy externally, membranous and ciliated internally. *Palpi* rather long and slender pilose 4-jointed, basal joint rather longer than the 2nd and 3rd which are of equal length, 4th long subfusiform, slightly produced at the insertion of the bristles (4).

*Mentum* obconic. *Lip* rather long, rounded, ciliated. *Palpi* as long as the lip, 3-jointed, 2nd joint very minute, terminal one elongate-conic, pilose at the apex (5).

Head transverse much larger in the male than female. Ocelli 3. Thorax transverse, not so broad as the head. Scutellum rounded. Abdomen short, depressed, spatulate in the males; long attenuated to the apex, angulated beneath in profile in the females (6, a, the base). Oviduct concealed. Wings as long or longer than the body in the males, pubescent, ciliated, transparent; superior with a nervure running from the base parallel to the costa, not so far as the half, whence it is continued along that margin, and becomes furcate before arriving at the apex. Legs slender. *Cocææ*; posterior large. Thighs nearly straight. *Tibiæ* simple with a single spine at the apex. *Tarsi* 5-jointed, basal joint the longest, terminal most robust. Claws hooked. *Pulvilli* large (8, a fore leg).

DISPAR Nob.

*Male*. Head and thorax bright bluish green, minutely punctured. Eyes fuscous. *Antennæ* ochraceous. Abdomen metallic green, subcupreous at the base, with a large ochraceous spot above the middle. Wings iridescent, nervures pale ochre. *Cocææ* green at the base. Legs ochraceous: apex of tarsi and pulvilli fuscous.

*Female*. Head and thorax dull bluish green. Eyes dull castaneous. *Antennæ* fuscous, basal joint ochraceous. Abdomen chalybeous, sometimes inclining to green, blackish towards the middle and near the apex. *Cocææ* green. Legs ochraceous; thighs green except at their extremities; *tibiæ* brownish at the base, apex of tarsi fuscous.

*In the Author's Cabinet.*

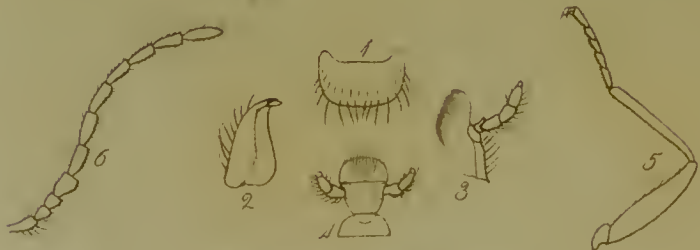
WE believe the group under investigation has been united by Dalman with the *Pteromali*, a genus of Latreille's allied to *Perilampus*; but *Colas* is nearer, perhaps closely allied to *Cleonymus* of the latter author which embraces those species with clouded wings, truncated antennæ, the abdomens of the females being similarly shaped to ours, but longer; from being unacquainted with their males, we cannot at present enter further upon the subject. From other genera of the same family, the one before us seems to be sufficiently distinct, and easily distinguished when the sexes are known. The authority on which we give the two insects in the plate as sexes of the same species, is tolerably satisfactory; but so far from wishing that it should be received as conclusive, we would invite those who are interested in the subject to pay attention to the lepidopterous *Chrysalides* producing these pretty insects, which will enable them to supply invaluable information upon a family whose economy is highly interesting and but imperfectly understood.

In the 136th plate of this work the caterpillar of *Acronycta Salicis* is given; and from one of these (which spun itself up in a web, but died before it became a pupa, in consequence of its being inoculated by these parasites) we obtained, the beginning of the following June, about half a dozen males and twice as many females; and amongst 10 or 12 more species of this genus, few of which appear to be described, is a pair that I took last September upon the *Achillea Millefolium*, in the Isle of Wight, not differing in form but essentially in colour.

*Colas* is derived from the Greek, and alludes to the parasitic economy of this group; and the specific name of *dispar* is characteristic of the disparity of the sexes.

Our insects were inhabitants of the Trossacks, and specimens of the plant figured, *Viola lutea* (a variety of the yellow Mountain Pansy), were tolerably abundant on the north and east sides of Schiehallien the beginning of July.





*Illustration of the beetle on the plant stem, June 7, 1887*

## MALACHIUS BISPINOSUS.

ORDER Coleoptera. FAM. Melyridæ *Leach*. Malacodermi *Lat*.

*Type of the Genus* *Cantharis bipustulatus Linn.*

MALACHIUS *Fab., Oliv., Lat., Panz., Gyll.*—*Telephorus DeG.*—*Cantharis Linn., Marsh.*

*Antennæ* inserted in a socket before the eyes in front of the head, subsetaceous, more robust in the males than females, varying much in the form of the joints, which are 11, the basal one the most robust in the males, the 4th in some females (fig. 6), the joints generally clavate truncate, but sometimes very much produced on the inside, terminal joint long ovate.

*Labrum* exerted, submembranous, somewhat crescent-shaped pilose (1).

*Mandibles* exerted, subtrigonal, semitransparent, acute, bifid at the apex, pilose on the outer margin (2).

*Maxillæ* bilobed, membranous and ciliated at their apex. *Palpi* 4-jointed, pilose, short and robust, basal joint very short truncated obliquely, 2nd and 3rd alike in form, terminal joint subeonic, terminated by a vesicle (3).

*Mentum* small, somewhat semicircular, appearing emarginate in front. *Lip* large thick and coriaceous at the base, membranous and pubescent at the apex which is rounded. *Palpi* inserted on the sides of the lip midway; short pilose, biarticulate, 1st joint clavate, 2nd ovate elongate, terminated by a vesicle (4).

Head transverse retractile. Eyes small, prominent. Thorax broader than the head, suborbicular, the margins flat, with papillæ under the anterior angles. Elytra soft, elongate ovate. Scutellum minute. Wings 2. Abdomen producing papillæ on each side at the base. Legs long, especially the last pair. Tibiæ simple, the hinder pair being slightly curved. Tarsi 5-jointed, decreasing in length to the last joint which is as long as the basal one and dilated at the extremity. Claws simple, dilated at the base. Pulvilli large bilobed (5, a fore leg).

BISPINOSUS *Steph., Nob.*

Clothed with very short yellowish pubescence, the head and elytra towards their apex producing black bristles. Head and thorax shining green, sometimes inclining to blue; antennæ of a duller green, the underside of the basal joints, the mouth and surrounding parts as far as the eyes and the margins of the thorax orange. Scutellum and elytra dull, yellowish green, the latter with an orange coloured acuminate process at the apex next the suture and 3 obscure striæ on each. Legs yellowish green.

*In the Cabinets of Mr. Stephens and the Author.*

*MALACHIUS* (a name derived from the Greek, and alluding to the soft and delicate texture of the insect,) was first established as a genus by Fabricius. May and June are the months that produce these beetles, some of them appearing occasionally in abundance. *M. æneus* I have seen in great plenty flying in the sunshine in grass fields, and *M. bipustulatus* upon the flowers of umbellate plants, where they either fed upon the flowers or upon the insects which they attracted. They are nearly all of a fine green, inclining more or less to blue or yellow, spotted or marked with orange or scarlet: but the peculiarity most worthy of observation is the curious red inflated appendages like little bladders, on the sides of the thorax and abdomen, which may be for the purpose of enabling the insect to increase or decrease its gravity during flight.

The following are British species:

1. *M. æneus* Linn., Panz. 10. 2. Don. 3. 96. 2.
2. *bipustulatus* Linn., Panz. 10. 3. Don. 15. 528. 2. 2.
3. *viridis* Fab., Oliv. 2. tab. 3. f. 14.
4. *marginellus* Fab., Oliv. 2. tab. 3. f. 18.
5. *bispinosus* Nob.
6. *sanguinolentus* Fab., Oliv. 2. tab. 3. f. 13.
7. *ruficollis* Panz. 2. 10. not of Fab.
8. *rubicollis* Marsh., Gyll.—*ruficollis* Fab., Oliv. 2. tab. 2. f. 9.
9. *thoracicus* Fab., Oliv. 2. tab. 2. f. 10.
10. *fasciatus* Linn., Panz. 10. 5. Don. 15. 528. 1. 1.
11. *bituberculatus*.
12. *pulicarius* Fab., Oliv., Panz. 10. 4.
13. *apicalis*.
14. *humeralis*.

In consequence of the curious tubercles terminated by bristles which are produced at the apex of the elytra, the name of *bispinosus* has been given to our insect, two of which we took in Norfolk several years since; but as we can find no other distinctions between it and *M. marginellus*, excepting its smaller size and more robust antennæ, especially at their base, which are sexual characters, we suspect it is only the male of that species.

The plant is *Adonis autumnalis* (Pheasant's-eye).







## RUGILUS FRAGILIS.

ORDER Coleoptera. FAM. Staphylinidæ *Lat., Leach.*

*Type of the Genus Pæderus orbiculatus Fab.*

RUGILUS *Leach's Mss.*—*Pæderus Fab., Oliv., Panz., Grav., Gyll.*—*Staphylinus Marsh.*

*Antennæ* inserted before the eyes at the base of the mandibles, subclavate, pubescent, and pilose, 11-jointed, basal joint the longest, the 3rd scarcely longer than the 2nd; the remainder increasing in diameter to the terminal joint which is subconic (fig. 6).

*Labrum* very large exerted, transverse ovate, pilose, bidentate in the centre (1).

*Mandibles* large bent; very acute, producing 4 teeth on the internal side in one and 3 in the other (2).

*Maxillæ* very broad bilobed, densely ciliated, superior lobe the smaller, inferior one broad. *Palpi* not very long, 4-jointed, basal joint small, 2nd long clavate, 3rd longer and more pilose very robust, subclavate ovate, terminal joint papillæform (3).

*Mentum* transverse pilose, sinuated at the base, narrowed anteriorly. *Lip* long and broad very hairy at the apex, slightly produced on each side where the palpi are inserted, behind which is a maxillæform process strongly ciliated (4c,\*). *Palpi* 3-jointed, 2nd joint rather larger than the 1st, ovate producing a few short bristles, 3rd slender cylindric truncate (4).

Head much larger than the thorax orbicular. Eyes small, lateral. Thorax attached to the head by a very thin neck, subovate, truncated behind, attenuated anteriorly. Scutellum distinct. Coleoptra quadrate broader than the head, not covering half the abdomen. Wings ample, longer than the Abdomen which is broad, the penultimate joint much longer than the others. Legs long, anterior the most robust. Tibiæ simple. Tarsi 5-jointed, densely pilose beneath, basal joint the longest in the 4 posterior, terminal the longest in the anterior. Claws small. (5, a fore leg).

FRAGILIS *Grav. Coleop. Microp. p. 140. n. 7.*

Black, thorax and legs reddish. Eyes black. Head and labrum pubescent, black, thickly punctured. Antennæ and trophi dull castaneous, the former piceous towards the base. Thorax and neck dull red or pale castaneous, rather thickly punctured, with an obscure channel down the centre. Elytra and scutellum pubescent, rather thickly punctured, piceous, inclining to chesnut at the shoulders, to ochre at the apex. Abdomen black pubescent, very minutely punctured: anterior legs ferruginous red; 4 posterior castaneous-piceous.

*In the Cabinet of Mr. Cooper.*

WHEN we had the pleasure of giving a figure of a nondescript *Pæderus*, we did not anticipate having it so soon in our power to lay before our readers this fine example of *Rugilus*, being a species at that time unknown in this country.

In this curious genus, the trophi are very distinct from any that we have noticed, and from their power and perfection it may be inferred, that the individuals comprised in it are of very rapacious habits: the toothed labrum, the strong mandibles (dentated like those of *Cicindela*) and the process immediately behind the labial palpi, indicating an approach to secondary maxillæ, are amongst the most striking peculiarities.

There are now four species of *Rugilus* in our British cabinets.

1. *R. fragilis* Grav., Nob.
2. *orbiculatus* Fab., Oliv., Panz. 43. 21.
3. *punctipennis* Kirby's Mss.
4. *immunis* Kirby's Mss.?

Gravenhorst has described *R. fragilis* from a solitary example he had seen in the collection of Mons. Bosc at Paris; and the beautiful specimen figured (the only one known in Britain) was discovered last spring, under the bark of a pollard Willow at Walthamstow Ferry, by Abraham Cooper, Esq. The other species are common, and may be found in moist situations, in moss, under stones and amongst rejectamenta.

The plant is *Viola canina* (Dog's Violet).





*Carthagenus*

## DEIOPEIA PULCHRA.

The crimson speckled Footman.

ORDER Lepidoptera. FAM. Tineidæ *Leach.**Type of the Genus Bombyx pulchella Fab.*DEIOPEIA *Steph. Mss.*—*Tinea Linn.*—*Bombyx Fab., Hüb.*—*Lithosia Lat., Haw.*—*Eyprepia Och.**Antennæ* alike in both sexes, remote, inserted on the crown of the head near the eyes, rather short, hairy beneath, covered with long scales above, each joint producing a bristle on each side (fig. 1).*Labrum* small, subovate.*Mandibles* subtrigonal ciliated internally.*Maxillæ* spiral, as long as the antennæ, very setaceous, producing only a few tentacula at the apex (3). “*Palpi* exceedingly minute, biarticulate.” *Savigny.**Labial palpi* as long as the head, porrected, remote at the apex, covered with rather short scales (4); 3-jointed, basal joint the most robust, 2nd the longest linear, 3rd short ovate, truncated obliquely (4 a).

Head short, transverse, covered with flat scales. Eyes small. Ocelli 2 (7 a). Wing deflexed, forming a triangle when at rest; superior long and narrow, inferior ample, much folded. Abdomen rather long and conical, somewhat acute in the females and slightly tufted in the males. Legs and Coxæ not very long. Tibiæ; anterior scarcely longer than the basal joint of the tarsus, producing a flat spine on the internal side, 2nd pair terminated by a pair of short spurs, 3rd having 2 pair of short spurs. Claws simple, distinct. Pulvilli small, (8, a fore leg).

Caterpillars hairy, with 6 pectoral, 8 abdominal and 2 anal feet.

PULCHRA of *Authors.*—*pulchella Linn. Syst. Nat. 2. 884. 349.*—*Haw. Lep. Brit. 150. 11.*

Head thorax and upper wings pale straw colour: antennæ and legs brown: eyes black. Thorax spotted with yellow and black, 2 black spots being on the anterior and 4 on the lateral scales and 3 down the centre. Superior wings with 5 curved interrupted strigæ formed of black spots, between which are several larger scarlet spots of various forms. Abdomen and inferior wings milky white, the former fuscous at the apex, the latter with a sinuated black fimbria, the transverse nervure near the centre of the wings also blackish.

*In the Cabinets of Mr. Dale, Mr. Stephens, and Mr. Vigors.*

THIS beautiful moth, which is distributed over every part of southern Europe, is also an inhabitant of Asia and America. In this country it is extremely rare, and it is worthy of remark, that it has always made its appearance on the sea coast; the first specimen discovered in this island (a female), was taken in Yorkshire, and was figured in the *Introduction to Entomology*; the next specimen was found in a field near Christchurch, Hampshire, the end of September, by J. C. Dale, Esq. and two others have been since taken, one the middle of September, the other the beginning of October, in a stubble field at Hove near Brighton, by Mr. Brown\*, who observed that they frequently settled, flying only short distances;—these are in the possession of J. F. Stephens, Esq. to whom I am indebted for the loan of the fine male, represented in the plate.

The caterpillar of *D. pulchra*, which is copied from Hübner, feeds upon *Heliotropium europeum*, *Solanum tomentosum* and *Myosotis arvensis* (Field Mouse-ear), which last only is indigenous to Britain, and is figured in the plate.

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\* Mr. Edward Brown lives in Jubilee Place, Brighton, and disposes of the insects that he collects.

2



*Carlinus arvensis* (L.)



## EUDOREA MURANA.

The Scotch Gray.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat.**Type of the Genus Tinea Pyralella Hüb.*EUDOREA *Nob.*—Scoparia *Haw.*—Pyralis *Hüb.*—Tinea *Linn., Fab., Hüb.*

*Antennæ* alike in both sexes, setaceous, inserted close to the eyes, composed of numerous campanulate joints, having a serrated appearance, clothed with scales above, hairy beneath, basal joint the largest (fig 1, a).

*Maxillæ* spiral, not so long as the antennæ, completely clothed with scales towards the base (3). *Palpi* very distinct, porrected horizontally, thickly clothed with scales extending far beyond the apex (7 a), biarticulate, basal joint globose, 2nd elongate oval (3 a).

*Labial palpi* longer than the head, robust, drooping, clothed with short scales above, with long ones beneath, extending far beyond the apex (4); 3-jointed, basal joint curved, 2nd long nearly linear, 3rd small conical (4 a).

Head clothed with rather loose scales. Ocelli 2. Eyes large (7).

Wings slightly deflexed when at rest forming a triangle, superior long and narrow, inferior ample and folded. Abdomen extending beyond the wings. Legs rather long. Tibiæ, anterior not longer than the basal joint of the tarsus, internal side producing a spine thickly clothed with scales, 4 posterior spurred, the hinder pair having spurs above the apex. Claws very minute. Pulvilli none (8, a fore leg).

MURANA *Nob.*

Pale ochraceous, with a grayish tinge. Antennæ, head and thorax spotted with black; base of maxillary and underside of labial palpi black: superior wings clouded with gray and spotted with black forming an obscure striga near the base, a pale indented one before and a sinuated one beyond the middle; next to the former is a fuscate black line near the costa, below which is a spot of the same colour not touching the striga, and close to the 3rd striga is a small black circle, with a semicircle at the top; the posterior margin and the base of the cilia are spotted with fuscous. Abdomen and inferior wings pale cinereous, the latter darkest at the margin; cilia pale. Legs annulated with black.

*In the Author's Cabinet.*

THIS very natural group was first distinguished as a genus by Mr. Haworth in his *Lepidoptera Britannica*, under the name of *Scoparia*, which having been applied by Linnæus to a genus of plants, we have been compelled to substitute another.

*Eudorea* being closely allied to Fabricius's genus *Phycis* (a name which must also fall, a group of fishes having been previously designated by it), we may observe that the antennæ of *Phycis* in the males appear to be incrassated towards the base, from the joints there producing a bundle of scales (from whence arises our trivial name of knot-horn), the wings when at rest are convoluted, and the labial palpi recurved.

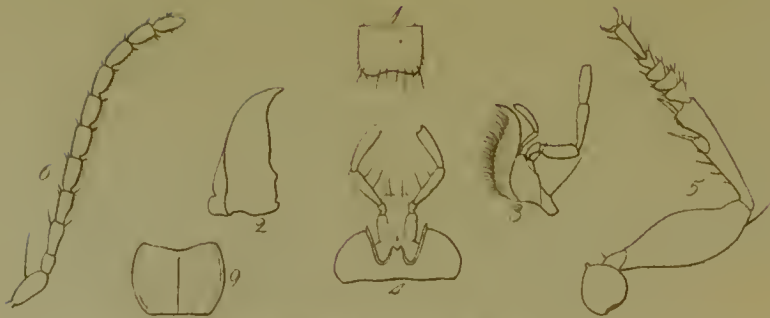
Many species of *Eudorea* being found upon the trunks of trees, stone walls and paling, we suspect the caterpillars are Lichen feeders. The following is our list of British species.

1. *E. Cembrae* Haw. *Lep. Brit.* p. 498. n. 1.—*Cembrella* Linn.? *Fab.*?
2. *dubita* Haw.—*dubitalis* Hüb.
3. *subfusca* Haw.
4. *Pyralea* Haw.—*Pyralella* Hüb.
5. *Mercurea* Haw.—*Mercurella* Linn.—*Cratægella* Hüb.
6. *murana* Nob.
7. *lineola* Nob.—from Mr. Plastead's collection: very like the preceding, but the under wings have a sinuated line across them.
8. *Resinea* Haw.—*Resinella* Linn.?
9. *pallida* Nob.—from Whittlesea Meer. Wings short, broad and pale.
10. *angustea* Nob.—from Tonbridge Wells. Wings long and very narrow.

*E. murana* has received its name from being found upon walls; it has a more ochraceous with a slightly green tinge, and is more thickly speckled than any of the other species. I took a specimen on the 9th of July 1825, upon a stone wall near Aberfeldy in Perthshire, and saw another in a similar situation a few days after in the neighbourhood of Schecallien.

The plant is *Saxifraga stellaris* (Hairy Saxifrage), from the shady and moist sides of mountains in Scotland.





*Carabus nemoralis*, 1827

## STEROPUS CONCINNUS.

ORDER Coleoptera. FAM. Carabidæ Lat.

*Type of the Genus Carabus madidus Linn.*

STEROPUS Meg.—Pterostichus Bon.—Molops Sturm.—Carabus Linn., Fab., Oliv., Marsh.

*Antennæ* inserted near the anterior margin of the eyes, rather robust and pubescent excepting the 3 first joints; 11-jointed, basal joint thick obovate, 2nd small, 3rd as long as the 1st, clavate, the remainder shorter, compressed and nearly as broad as the 1st, being slightly produced on the inside, terminal joint subovate (fig. 6).

*Labrum* quadrate, slightly rounded and emarginate anteriorly, sides ciliated, front producing a few bristles (1).

*Mandibles* rather slender, bent, not very acute, slightly dentated on the internal side towards the base (2).

*Maxillæ* rather small, bent, acute, ciliated with rigid hairs internally. *Palpi* 2, internal short, slender, 2-jointed, basal joint clavate, 2nd bent ovate at the apex; external 4-jointed, basal joint small, 2nd robust, 3rd a little longer than the 2nd clavate, 4th shorter, ovate truncate (3).

*Mentum* transverse, bilobed, producing in the centre a notched process. *Lip* elongated, quadrate. *Palpi* long, arising from scapes on each side the lip, long 3-jointed, basal joint minute, 2nd and 3rd long of equal length, clavate truncate (4).

*Eyes* small, globose. Head rather elongated, much narrower than the Thorax which is suborbicular concave before, truncated behind, sides margined (9). *Elytra* connate. *Wings* none in either sex. *Legs* strong. *Thighs* robust, posterior remote at their attachment, trochanters very long. *Tibiæ* spurred, anterior notched on the internal side, middle and posterior furnished with series of rigid bristles. *Tarsi* 5-jointed, 3 basal joints dilated in the males, terminal joint long. *Claws* bent strong (5, a fore leg).

CONCINNUS Sturm's Deut. Faun. V, 175. 7. tab. 104. f. e.

Black smooth shining: apex of mandibles castaneous, tips of palpi ochraceous: antennæ excepting the 3 first joints covered with piceous pubescence: 2 impressions upon the nasus: thorax with a channel down the centre furcate at the base, a curved, impressed line across the anterior portion and a fovea at each posterior angle. *Coleoptra* ovate. *Elytra* with 8 deep striæ on each, the 1st being furcate at the base, the 8th strongly punctured, a puncture next the 2nd stria near the middle and another upon the 3rd towards the base: bristles upon legs ferruginous.

*In the Author's Cabinet.*

THE differences in the trophi, antennæ and legs of *Steropus* and *Omasus* (pl. 15.) are so trifling, that the former can only

be considered as a subgenus founded on secondary characters, viz. the absence of its wings, its more orbicular thorax and ovate elytra.

1. *S. madidus* Linn., Fab., Oliv. 3. t. 5. f. 61. Marsh.

is one of the commonest of our beetles, abounding even in our houses at all seasons, and is remarkable only for a decided variation in the colour of the legs, some being entirely rufous, others as uniformly black; this, which is a good type of the genus, is the only one recorded as British.

2. *S. concinnus* Sturm., Nob.

We have little doubt that the example before us is a female of Sturm's insect; it is the only specimen existing in any cabinet that has come under our observation in this country, and was taken by the author in Scotland either in July or August 1825.

It may at first sight be distinguished from the type, being smaller; the limbs are much more slender, the head is not so large in proportion, the foveæ and channel upon the thorax are less distinct, whilst the striæ upon the elytra (which are broader towards their termination) are much deeper; but it may easily be confounded with *Carabus* (*Omascus*) *Nigrata* Fab.

The plant is *Saxifraga cernua* (Drooping bulbous Saxifrage), gathered by Mr. Dale at the summit of Ben Lawers in the middle of July.





Painted by M. Curtis July 1. 1807



## LAMIA NUBILA.

ORDER Coleoptera. FAM. Cerambycidae Lat., Leach.

Type of the Genus Cerambyx Textor Linn.

LAMIA Fab., Lat., Panz., Sam.—Cerambyx Linn., Oliv., Marsh.

*Antennæ* inserted on each side the crown of the head, upon the interior margin of the eyes; as long or longer than the body, setaceous, sometimes ciliated, 11-jointed, 1st joint long, very robust, 2nd small, 3rd generally the longest, the remainder decreasing in length to the last which is longer than the antecedent one (fig. 6).

*Labrum* exserted, obcordate, truncated at the base, scabrous and pilose (1).

*Mandibles* short, robust, subtrigonal, slightly bent and a little produced or sinuated on the internal margin (2).

*Maxillæ* small, pilose, bilobed, thickly ciliated; superior lobe obovate. *Palpi* longer than the maxillæ, 4-jointed, basal joint short, 2nd and 3rd rather robust, of equal length, subpyriform, 4th the longest, subfusiform, truncated (3).

*Mentum* small transverse rigid pilose and elevated at the base.

*Lip* as broad as the mentum, suborbicular, very pubescent at the apex, narrowed at the base. *Palpi* short, inserted towards the middle of the lip, 3-jointed, basal joint minute, 2nd robust clavate, 3rd robust subovate (4).

Head short, vertical. Eyes lateral, narrow, emarginate on the internal side next the antennæ (7\*, the head in profile). Thorax as broad or broader than the head, cylindrical, sometimes spined on each side (9). Scutellum minute. Wings? 2. Coleoptera broader than the thorax, convex, elongate oval. Legs robust. Thighs scarcely clavate. Tibiæ simple, clavate truncate. Tarsi 4-jointed, 3 first joints broad with cushions beneath, the 1st and 2nd joints short, 3rd bilobed, terminal joint long clavate. Claws short. Pulvilli none (5, a fore leg).

NUBILA Gmel. 1832. 72. Marsh. 332. 13.—nebulosa Fab. Ent. Syst. 1. pars 2. 277. 38.

Dark ochre, pubescent. Head not punctured, with 4 short black stripes on the crown: eyes black. Thorax subquadrate, not spined, coarsely and sparingly punctured, with 4 black stripes down the back. Scutellum orange, black on the sides. Elytra sparingly and coarsely punctured with black, an interrupted white fascia across the middle, partially margined with black, 4 white spots surrounded with black near the scutellum and several others and 2 black sinuated strigæ towards the apex. Antennæ ciliated on the external side, castaneous, basal joint variegated with white, 3rd joint whitish at the base, the remainder with the basal half pearly white, excepting the last joint which is entirely white. Thighs and Tibiæ ochraceous variegated with black. Tarsi black, 1st, 2nd and 4th joints white at their base.

In the Cabinets of Mr. Raddon and the Author.

THIS fine genus contains about forty named extra-european species, some of which are ranked amongst the most beautiful of the Coleoptera: there are also seven or eight species inhabiting Europe, two of which only have been detected in Britain, viz:

1. *L. Textor* Linn.—Panz. 19. 1.—Samouelle's *Ent. Comp.* pl. 2. f. 24.

This species has nothing to recommend it but its size and rarity; it has occurred near Bristol and at Lyminster in Hampshire, upon the trunks of willow trees in June.

2. *L. nubila* Gmel.

We are not aware that any figure has been given of this rare and beautiful insect by any of our English authors: and the representations of it in Olivier and Schæffer by no means do it justice, in consequence of their being drawn from dead specimens, the insect fading soon after it is deprived of life. Through the politeness of Mr. Raddon, we are enabled to give a portrait from a living specimen, that gentleman having received two in April last from Bewdley near Worcester; it has been taken also at Coombe Wood in June upon the trunks of trees, and we think also at Darent.

The *Cerambycidae* in the larva state do incredible mischief to timber: and we cannot conclude this paper without referring our readers to the 13th volume of the Linnean Transactions for the natural history of *L. amputator* Fab., accompanied by figures of the egg, larva, pupa and imago of that insect, communicated by the Rev. Lansdown Guilding from the Island of St. Vincent.

*Orobis tuberosus* (Heath or Wood-pea) is figured in the plate.





July 1 1847

## GONEPTERYX RHAMNI.

## The Brimstone Butterfly.

ORDER Lepidoptera. FAM. Papilionidæ *Lat., Leach.*

*Type of the Genus Papilio Rhamni Linn.*

GONEPTERYX *Leach., Sam.*—*Colias Fab., Lat.*—*Pieris Schr.*—*Papilio Linn., Haw.*

*Antennæ* inserted upon the crown of the head, rather short and robust, cylindric, clavate, the obconic club not compressed (fig. 1).

*Labrum* and *Mandibles* attached to the nasus or clypeus.

*Maxillæ* spiral, more than twice the length of the antennæ (3).

*Labial Palpi* porrected obliquely (7\*4), obtuse, producing long scales beneath which meet and cover the maxillæ (7, 4); 3-jointed, basal joint recurved, robust, 2nd robust subovate, 3rd small conical (4 a).

Head rather small with a long erect tuft of scales upon the forehead (7\*).

Eyes ovate, not pubescent. Thorax large. Wings large angulated, inferior ones grooved on the abdominal margin to receive the body.

Feet alike in both sexes. Tarsi 5-jointed, basal joint long, 2nd and 3rd short of equal length, 4th very small, 5th longer (8, a fore leg).

Claws bifid. Pulvilli slender (8†).

Larvæ elongated naked, with 6 pectoral, 8 abdominal and 2 anal feet.

Pupæ short, robust, angular, thorax and underside very convex, beak sharp, attached by the tail and loosely girted round the middle.

RHAMNI *Var.*

*Male*: Antennæ and upper surface of palpi and tuft on head dull rose colour. Wings deep yellow, each having an orange spot towards the centre, those on the upper wings being the smallest: superior wings clouded, minutely dotted and streaked with orange, the nervures partaking of the same colour, inferior wings with a greenish tinge towards the base, less clouded and dotted with orange. Beneath pale sulphur with a very faint rosy tinge, the central spot of each wing pale shining brown, the edges darker, forming an ocellus, a row of rosy dots upon the external margins and another of brown dots parallel to them.

*In the Cabinet of Mr. Haworth.*

DR. LEACH, who first established the genus *Gonepteryx*, gave no other character to distinguish it from *Colias* than the angu-

lated wings: it may however be observed that the antennæ are not capitate but clavate, and the long tuft of scales below them as represented at figure 7\*, is not a less important distinction.

Many species of the beautiful family to which our insect belongs live through the winter, and delight us with their vernal visits: and amongst the earliest of these heralds of spring is the Brimstone Butterfly, making its appearance in the neighbourhood of woods and even sporting in our gardens when the sun's rays first begin to cheer and animate all nature; and the eggs which are then deposited produce green caterpillars that feed upon the Buckthorn (*Rhamnus catharticus*), and again appear as butterflies in August.

*Papilio Rhamni* was described by Linnæus, and has been figured in *Donovan's British Insects* (vol. 5. plate 145.): the females are of a very pale yellow, and the males are of a fine sulphur colour, but not quite so dark perhaps as the extraordinary variety represented in our plate, which approaches so near to *G. Cleopatra* that it appears only to require the interstices to be filled up with the orange colour that variegates the upper wings to obtain the perfect character of the male of that species; which is the more remarkable, from *G. Cleopatra* never having been detected in this country; otherwise we should have been disposed to have referred it to that species. This beautiful variety was taken many years back at Peckham near London by Mr. Ingall, by whom it was presented to A. H. Haworth, Esq., in whose valuable collection it is now preserved, and to whose politeness we owe the opportunity of laying a figure of it before our readers.

The plant is *Melica uniflora* (Wood Melic-grass).





*Chrysomelidae*



## COREUS SCAPHA.

ORDER Hemiptera.      FAM. Coreidæ *Leach.*    Corisiæ *Lat.*

*Type of the Genus Cimex marginatus Linn.*

COREUS *Fab., Wolff., Lat., Fall., Panz.*—*Cimex Linn., Geoff.*

*Antennæ* inserted at the anterior angles of the head, remote, longer than the thorax, 4-jointed, geniculated, basal joint robust, prismatic or cylindric, 2nd and 3rd rather slender, nearly equal in length, 4th shorter, thicker, conical pilose (fig. 4).

*Labrum* very long and slender towards the apex which is acuminated (3).

*Mandibles* and *Maxillæ* like setæ passing through the rostrum.

*Rostrum* inflected, as long as the thorax (2); distinctly 4-jointed, 1st and 2nd joints the longest, 3rd and 4th of nearly equal length (2\*).

Head subquadrate, spined in front, neck not apparent. Eyes lateral, small prominent. Ocelli 2, placed near the base of the head (f. 1, the head in profile). Thorax not broader than the head anteriorly, more than twice as broad at the base, sides angulated. Scutellum triangular not large. Elytra not covering the abdomen, posterior portion membranous. Wings shorter than the Abdomen which is depressed or concave, broader than the thorax, the sides dilated, very thin, and elevated; apex truncate in the males, emarginate having 2 or more lobes in the females (5). Thighs sometimes producing short spines and grooved beneath. Tibiæ simple, posterior rather the longest. Tarsi 3-jointed, basal joint the longest, 2nd small. Claws and Pulvilli small (6, a fore leg).

SCAPHA *Fab. Ent. Syst. v. 4. p. 127. n. 2.*

Granulated and punctured, ochraceous, some inclining to castaneous others to cinereous. Head producing a spine in the centre, and a pale ochre one at each angle, the sides being margined with the same colour. Thorax with the lateral margins and an obscure line down the centre pale ochre, the posterior angles notched. Elytra spotted or clouded with castaneous, the margin at the base ochraceous, the membrane bronzed; sides of the abdomen reflexed, the edges, 5 spots down each side and 3 at the apex pale ochre. Antennæ with the basal joint robust and cylindric, granulated, rosy ochre, the internal side fuscous, 2nd joint rufous, 3rd and 4th black, the former rufous at the base. Legs pale, the thighs maculated with dark fuscous, the tibiæ spotted with black; tarsi subferruginous, terminal joint black. Beneath pale dirty ochre clouded with cinereous and spotted with black.

*In the Author's Cabinet.*

THE broken antennæ composed of only four joints, will readily separate the genus *Coreus* from the *Pentatomidæ*, whilst the dilated abdomens with elevated margins will distinguish it from other groups of the *Coreidæ*.

The different species exhibit many variations of form in the antennæ, especially of the basal joint, in the process between them which in some is bifid, in the outline of the thorax and abdomen, as well as in the number of lobes or teeth at the apex.

We are now able to enumerate five perfectly distinct British species; the first of which only is common.

1. *C. marginatus* Linn., Wolff. tab. 3. f. 20.

Found in May and September in gardens and hedges upon the dock. This insect has such rigid elytra and wings, that when flying they create a very harsh sound.

2. *C. Scapha* Fab. Nob.

Amongst other characters which this insect possesses that will distinguish it from the foregoing one, is the simple spine between the antennæ, which in that species is cleft. The end of last August I found the larva and two specimens at the base of the Cliff near Dover, and in September another in the Isle of Wight.

3. *C. quadratus* Fab., Wolff. t. 7. f. 67.—*venator* Don? 11. 375.

Found in June and August in hedges.

4. *C. scabricornis* Panz. 99. 21.

5. *C. denticulatus* Scop., Wolff. t. 7. f. 68.—*hirticornis* Fab., Panz. 92. 17.

Inhabits sandy places in June.

The plant figured is *Crithmum maritimum* (Rock Samphire), and was obtained from the celebrated Shakspeare Cliff near Dover; it was also growing above the spot where the insects were found.





by C. G. S. in the year 1827

## CLIVINA COLLARIS.

ORDER Coleoptera. FAM. Carabidæ Lat., Leach.—  
Scaritidæ McL.

*Type of the Genus Tenebrio Fossor Linn.*

CLIVINA Lat., Clairv., Panz., Leach., Dej.—Scarites Fab., Oliv.—  
Carabus Marsh., Herbst.—Tenebrio Linn.

*Antennæ* inserted before the eyes in a fissure on each side the head, 11-jointed, pubescent excepting the first 2 joints, basal joint the longest robust, 2nd slender scarcely longer than the 3rd which is pear-shaped, the remainder moniliform, the terminal joint subovate (fig. 6).

*Labrum* subquadrate, narrowed a little at the base, anterior angles rounded, producing strong bristles, some of them dilated at the apex (1).

*Mandibles* porrected, but not very large, bent, not very acute, having 3 or 4 teeth on the internal side (2).

*Maxillæ* long and slender, internal lobe dilated on the outside, ciliated with strong bristles on the inside, bent and terminated by a subulate tooth. *Palpi* 2, terminated by vesicles; internal biarticulate, 1st joint clavate, 2nd attenuated; external long and robust, 4-jointed, basal joint slender bent, 2nd thick subovate, 3rd subclavate, 4th the longest attenuated to the apex (3).

*Mentum* large semiorbicular, emarginate before, producing a large lobe in the centre. *Lip* small producing a narrow lobe on each side. *Palpi* long and robust, attached to 2 long scapes, 3-jointed, basal joint small, 2nd clavate, 3rd the longest, subfusiform, slenderest at the apex which produces a vesicle (4).

Head small, neck distinct. Eyes small lateral. Thorax broader than the head, quadrate, slightly depressed, narrowed at its base. Coleoptera broader than the thorax elongate ovate. Wings ample in one species, short and small in the other. Scutellum minute, attached to the peduncle of the abdomen which is considerably elongated. Legs short. Thighs, anterior very robust. Tibiæ, anterior dilated, strongly dentated and spurred, emarginate on the inside, the others spurred, the 2nd pair producing a strong external spine above the apex. Tarsi alike in both sexes, slender 5-jointed, anterior the shortest. Claws small. (5, a fore leg.)

COLLARIS Herbst's Arch. tab. 29. f. 15.—sanguinea Leach's MSS.

Shining. Mandibles and antennæ ferruginous. Head and thorax blackish brown, the former castaneous on the crown, with a small deep impression between the eyes, the latter with a transverse impressed line near the anterior margin and a deep channel down the middle. Elytra and legs pale castaneous, the former sometimes brownish in the disk below the middle, each elytron with 8 punctured striæ, the 3rd impressed with 4 larger punctures and the marginal striæ deeply punctured. Wings long and ample. Beneath black variegated with castaneous.

*In the Author's and other Cabinets.*

ALTHOUGH the Baron Dejean has united two groups to form the genus *Clivina*, we shall not hesitate to adopt the division of them pointed out by Panzer and followed by Leach, and also Latreille in his *Familles Naturelles*, by which means the majority will be comprised in the genus *Dyschirius*, from which *Clivina* is distinguished by a more quadrate and less globose thorax, and by more completely digitate tibiæ, as well as oral characters, which we shall point out when we arrive at their illustration.

Our insects no doubt burrow in moist sandy situations, for which purpose they are furnished with a small head, a very strong thorax, (capable of very extensive motion, from its being attached to a peduncle,) and digitate anterior tibiæ.

The only two species known to inhabit Europe are natives of this country, and were first separated by Herbst. They have however been since confounded by Gyllenhal and Dejean; but our friend Mr. Bennett has pointed out a character which, independent of colour or size, will at once define the species, one having long wings formed for flying, the other such short wings that they cannot possibly enable the insect to fly. This latter

1. *C. fossor* Linn.—*arenarius* Fab., *Panz.*, 43. 11.—*distans* Marsh.

is a common insect in sandy situations, under stones and upon marshes after floods amongst rejectamenta, throughout the country, during the months of March, April and May.

2. *C. collaris* Herbst., *Nob.*

is a more local species, confined apparently to the neighbourhood of London, being abundant in the gardens at Lambeth and on the shore of the Thames at Battersea, from April to the end of June. It is a smaller insect than *C. fossor*; and as we find some with, and others without the large brown spot towards the apex of the elytra, we are disposed to consider it a sexual distinction, the former being we suspect the *C. discipennis* of Megerle. We have also found in Norfolk two pale varieties of *C. fossor*, which appeared to be immature, and these may probably be the *C. discicollis* of the same author.

The plant is *Galeopsis Ladanum* (Red Hemp-Nettle).





by G. Curtis Aug. 1 1827



## LEISTUS FULVIBARBIS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.**Type of the Genus Carabus spinibarbis Fab.*LEISTUS *Froehlich Clairv., Leach, Sturm, Dej.*—*Pogonophorus Lat., Gyll.*—*Manticora Jur., Panz.*—*Carabus Fab., Marsh.**Antennæ* inserted before the eyes, very long, filiform, slender, 11-jointed, 4 first joints naked, the remainder pubescent, basal joint long robust, 2nd short, 3rd as long as the 1st, 4th only half the length of the 5th which is the longest, the remainder decreasing very slightly in length (fig. 6).*Labrum* transverse, rounded, producing a few long bristles in front, ciliated on the sides (1).*Mandibles* acute, dilated externally towards the base, one producing a strong tooth near the middle on the internal edge (2).*Maxillæ* long slender, very much bent and terminated by a slender acute hook, ciliated with rigid bristles on the internal edge, the external side below the palpi producing setiform spines.*Palpi* 2, internal biarticulate, basal joint clavate, 2nd linear bent: external long, 4-jointed, basal joint minute, 2nd long rather stout, 3rd slender, much shorter, 4th not so long as the 2nd; subclavate truncated obliquely (3).*Mentum* transverse, rounded before, emarginate, the centre produced and slightly notched, producing 2 bristles. *Lip* long horny, quadrate towards the base, the angles acuminate, attenuated beyond the middle, very slender at the apex, which produces 2 bristles and a strong spine on each side. *Palpi* as long as the maxillary, arising from very short scapes, 3-jointed, basal joint short, 2nd very long and slender, 3rd long, very clavate and truncated obliquely (4).

Head quadrate, strangulated at the base. Eyes very prominent, not touching the Thorax, which is broader than the head, margined, cordiform, and truncate at the base. Coleoptera much broader than the thorax, oval elongated. Scutellum small. Wings ample. Legs long. Thighs rather robust. Tibiæ all simple, spurred. Tarsi long slender and 5-jointed, 3 basal joints of anterior pair a little dilated in the males (5, fore leg of a male).

FULVIBARBIS *Hoff., Dej.*—*rufibarbis Fab.?*—*Raulinsii Sam.*

Shining. Eyes black. Mouth, antennæ and legs ferruginous ochre. Head and thorax bluish black, the latter convex, very much narrowed at the base, where it is deeply punctured as well as at the anterior margin; a deep channel down the centre. Elytra violaceous black with 9 punctured striæ on each, the 1st abbreviated, the 2nd and 3rd united at their base, 4 obscure punctures between the 3rd and 4th striæ, and a line of serrated punctures on the external margin. Beneath piceous.

*In the Author's and other Cabinets.*

THE two *Carabidæ* figured in this number (*Clivina* and *Leistus*) present as different aspects as any European forms contained in the family, one of them being narrow, nearly cylindric, with short strong legs, the anterior notched, the antennæ short and moniliform, (a structure very rare amongst this tribe of beetles); the other being broad depressed, with long slender legs, the anterior not notched, and the antennæ very much elongated: upon examining the mouths however, by accurate dissection, which we hold to be the touchstone of truth, ample proof will be found of their being related to each other, although the *trophæ* exhibit very great and very remarkable modifications. We shall be pardoned for these observations, when it is recollected that Linnæus himself, misled by analogy, included *Clivina* with *Tenebrio*: and such remarks are not addressed to the profound entomologist, but are intended to guide the student, who might be unable to satisfy himself for what reasons two insects so decidedly different in contour, should be included in the same family.

With the group called *Leistus*, Linnæus appears to have been unacquainted; and we wish to call the attention of the physiologist particularly to the Lip, which does not appear to us to have been before accurately delineated. The following are our British species.

1. *L. spinibarbis* *Fab., Marsh.*—*cæruleus* *Lat., Sturm.*—*pallipes* *Panz.* 89. 2.

Found during May, June, August and September, in sandy situations, under stones and dry leaves in woods.

2. *L. fulvibarbis* *Hgg., Dej., Nob.*

Independent of considerable differences of colour in this and the former species, our insect (a male of which is figured) is much smaller, and the thorax is more convex, and narrowed at the base: it is rarer, but occurs in Kensington Gardens, Battersea Fields, and other places round London, at the same periods as the first.

3. *L. spinilabris* *Panz.* 39. 11. *Fab.*—*brunneus* *Marsh.*—*rufescens* *Sturm.*—*fusco-ænea* *Panz.* 89. 3.

April, sandy places, Norfolk.

4. *L. rufescens* *Fab., Lat., Marsh.*—*terminatus* *Panz.* 7. 2.

Found during the spring in the neighbourhood of London: it is rarer than No. 3, from which it is distinguished by its black head and tips of the elytra.

The plant is *Neottia spiralis* (Ladies' Traces).





ANTENNAE



... 1852

## MISELIA BIMACULOSA.

The twin-spotted Underwing.

ORDER Lepidoptera. FAM. Noctuidæ Lat., Leach.

*Type of the Genus Noctua eompta Fab.*

MISELIA Hüb., Och.—Noctua Linn., Fab., Haw.

*Antennæ* inserted close to the eyes, on the crown of the head, long, setaceous, robust in the males, sometimes produced on the inside (fig. 1); covered with scales above, pubescent beneath, basal joint eup-shaped, the scales extending far beyond the edge. *Maxillæ* spiral, setaceous, not longer than the antennæ, furnished with tentacula at the apex (3).

*Labial palpi* short, porrected somewhat obliquely, thickly clothed with scales excepting the terminal joint which is almost naked (4); 3-jointed, basal joint rather robust, 2nd long and not so thick, 3rd elongate obovate (4 a).

Head tufted on the crown. Eyes rather small and oval (7\*). Thorax quadrate, thickly clothed with scales. Abdomen large, robust, angulated, tufted on the back near the base, ovate conic in the females. Wings slightly deflexed when at rest; superior large, the posterior margin and cilia crenate; inferior rather small. Legs strong, anterior the shortest. Thighs thickly ciliated. Tibiæ, anterior thickly clothed with scales, concealing the internal spine, middle and posterior spurred, the latter having a pair above the apex, one being very short. Tarsi 5-jointed, basal joint the longest, as long as the tibia in the anterior pair. Claws distinct, bifid. Pulvilli small (8, a fore leg).

Larvæ with 6 pectoral, 8 abdominal, and 2 anal feet, head and pectoral segments depressed, penultimate gibbous or tuberculated.

Obs. The dissections and descriptions were made from *N. Oxyacanthæ* Linn.

BIMACULOSA Linn. Syst. Nat. 2. 856. 184.—Fab. Ent. Syst. 3. pars 2. 70. 197.

Yellowish cinereous, partially inclining to castaneous and minutely speckled. Antennæ and abdomen ochraceous. Eyes cinereous: thorax with the internal edges of the lateral scales black: superior wings with a brown spot at the base and 10 marks of the same colour branching from the costa; nervures dotted brown; a dentated brown striga towards the base; and a crenated brown and pale one, parallel to the posterior margin, next which is a castaneous indented line, suffused near the posterior angle; 3 large pale spots near the centre margined with brown and ferruginous, and a shuttle-shaped spot of the latter colour at the base; the posterior margin crenated and spotted with brown: inferior wings partially speckled, limb pale, the margin dentated and brown, a large lunular spot near the centre, and a quadrate one near the posterior angle extending in a line across the wing, of the same colour. Beneath whitish, nervures and a large spot in the centre of each wing fuscous.

*In the Cabinet of the British Museum.*

IN the formation of genera there cannot be a more difficult task than to detect sound characters to distinguish groups of Lepidoptera, especially those of the *Noctuadæ*: that the structure of the mouth will divide them naturally there can be no doubt, but we suspect not sufficiently. The next character we should select would be the antennæ: but here the greatest care is necessary; for it cannot be denied that the pectinated or simple antennæ of the males will not separate the *Noctuadæ* into two primary divisions: but although this may be true, we never can admit that a species with strongly pectinated antennæ can naturally come in the midst of a genus where those organs are characterized by having each joint, at most, but slightly lobed. This however has been done in the *Schmetterlinge von Europa*, by the introduction of *Bombyx oleagina* Fab. into the genus *Miselia*, which for the above reasons we shall exclude, and only enumerate the following as British species.

1. *M. compta* Fab., Hüb., Haw.—X-scriptum Sowerby's *Br. Mis. tab. 55.*—*compta* Och.

The larvæ feed I believe upon *Lychnis dioica* (pl. 54). The perfect insect is found upon paling the end of June at Darent Wood, near Dartford.

2. *M. concinna* Hüb.—*conserta* Hüb.—*albimacula* Och.—*compta* Esp.

Not before recorded as British.

3. *M. Oxyaanthæ* Linn., Haw., Don. *Brit. Ins. 5. 165.*

The larvæ feed upon white-thorn in June, and the imago flies in the evening about hedges and woods, from the end of September to the end of the following month.

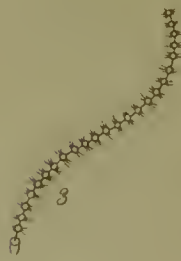
4. *M. bimaculosa* Linn., Nob.

The only indigenous specimen of this fine moth is preserved in the British Museum. For the figure of the caterpillar, which feeds upon the elm, we are indebted to Hübner.

5. *M. aprilina* Linn., Haw.—*runica* Fab., Don. 10. 354. 1. —*Sepp. 2. 20.*

“This (says Mr. Haworth) is at once a plentiful, well known and beautiful insect; but it is remarkable that none of our collectors ever take it in the winged state, and very rarely in that of a Larva. The usual mode of procuring it being by digging about the roots of oaks an inch deep for the pupæ, which are annually found in that manner in considerable numbers.” The middle of April and of October the moths are hatched.





1827 Aug 1



## CECIDOMYIA VERNA.

ORDER Diptera. FAM. Tipulidæ *Lat., Leach.**Type of the Genus Cecidomyia lutea Lat.*CECIDOMYIA *Meig., Lat.*—*Oligotrophus Lat.*—*Chironomus Fab.*—*Tipula Linn., DeG., Fab.**Antennæ* porrected inserted in front of the face, approximating, as long or longer than the body, more or less moniliform, and pilose, composed of 13 subovate joints in the females (fig. 3 a), of 25 globose remote joints in the males (3).*Labrum* and *Tongue* not visible.*Mandibles* and *Maxillæ* none.*Palpi* exerted, incurved, longer than the lip, 4-jointed, slightly pilose (2 f).*Lip* short, bilobed, pilose (g).*Eyes* lateral, coarsely granulated (2), sometimes covering the whole*Head* which is globose. *Ocelli* none. *Thorax* globose. *Scutellum* rounded. *Abdomen* long, linear in the males; short in the females.*Ovipositor* retractile as long as the body. *Wings* incumbent ciliated and pubescent, longer than the abdomen in the females, costal nervure surrounding the wing, subcostal short, 2nd and 3rd extending to the margin, 4th angulated and producing a transverse nervure which unites with the 3rd. *Halteres* large capitate. *Legs* simple nearly of equal length. *Thighs* and *Tibiæ* of equal length. *Tarsi* 5-jointed, basal joint minute in all, 2nd as long as the tibiæ, the remainder decreasing in length. *Claws* very minute (8, a fore leg).*Larvæ* cylindric, elongated, attenuated to the apex with 14 feet; deforming the leaves of plants by producing what are improperly called *Galls*, in which they undergo their metamorphoses.*Pupæ* inclosed in a case. *Lat.**Obs.* The dissections and descriptions are made from *C. verna* *Nob.* The antenna of the male is copied from *Meig. Klass.*VERNA *Nob.**Female.* Head and eyes intense black. *Antennæ* fuscous. *Thorax* cinereous, pubescent, having 3 abbreviated stripes down the back, the spaces between them producing ochraceous hair. *Scutellum* and *halteres* ochraceous. *Abdomen* hairy, dull castaneous, *ovipositor* ochraceous. *Wings* iridescent, pale yellowish fuscous, ferruginous at their insertion, the subcostal nervure of the same colour, the others fuscous. *Legs* straw colour pubescent, thighs with a black stripe on the top; *Tibiæ* fuscous especially at their base; *tarsi* black.*In the Author's Cabinet.*

THESE little insects with their beautiful antennæ and curious tarsi are by no means unimportant objects, and their history

and œconomy cannot fail to interest every lover of Nature, who will be much gratified by the perusal of papers in the third, fourth and fifth volumes of the *Linnean Transactions*, where full accounts are given of the *Tipula Triticici*; the following remarks relating to the same insect we have copied from the *Introduction to Entomology*.

“When the wheat blossoms, another marauder, to which Mr. Marsham first called the attention of the public, takes its turn to make an attack upon it, under the form of an orange-coloured gnat, which, introducing its long retractile ovipositor into the centre of the corolla, there deposits its eggs. These being hatched, the larvæ, perhaps by eating the pollen, prevent the impregnation of the grain, and so in some seasons destroy the twentieth part of the crop.” Mr. Kirby has further observed that the perfect insects fly from seven to nine in the evening all June, and their larvæ were attacked by three species of *Ichneumon*, that deposited their eggs in them. Another species, *T. pennicoruis*, is the insect that impregnates the flowers of *Aristolochia clematis*, an amusing account of which will be found in the first volume of the *Introduction to Entomology*, p. 289.

Meigen has described twenty-two species, most of which are probably inhabitants of this country; but his descriptions are too slight to identify them to our satisfaction. The following, however, appear to be natives of this country.

1. *C. lutea* Lat.—May, June, August and September.
2. *Triticici* Kirby *Linu. Trans. v. 5. p. 106. tab. 4. fig. 1—3.*
3. *verna* Nob.—The end of April.
4. *nigra* Meig. v. 1. tab. 3. f. 11.
5. *lateralis* Meig. 1. 96. 5.
6. *palustris* Linn.? *Faun. Suec. 1775.*
7. *nigricollis* Meig. 1. 97. 8.
8. *flava* Meig. 1. 99. 17.

Independent of the early period of the year at which our insect (*C. verna*) was taken, the colour of its wings, which are cinereous, will separate it from *C. Triticici*, of which Mr. Kirby says in his description, “*Alis lacteo-iricoloribus.*” The females appear to be the most abundant, and we have not yet seen a male of our species; when the female figured was alive, its antennæ were curved upward, which gave it the character of an *Ichneumon*, and the tube or ovipositor was not exerted till it was killed.

The plant is *Galeobdolon luteum* (Yellow Archangel).





*Carabus (C. leucostictus)*

## ELAPHRUS ULIGINOSUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.*

*Type of the Genus Cicindela riparia Linn.*

ELAPHRUS *Fab., Lat., Oliv., Gyll., Dej.*—*Cicindela Linn., Marsh.*

*Antennæ* inserted before the eyes at the base of the mandibles, rather short and robust, subclavate, and pubescent excepting the 3 first joints; 11-jointed, basal joint ovate, 2nd small, 3rd and 4th of equal length clavate, the former slender, the 5th and following subovate, terminal joint ovate (fig. 6).

*Labrum* transverse quadrate, angles rounded, anterior margin sinuated, producing a few long bristles (1).

*Mandibles* slightly bent, rather slender, furnished with 4 blunt teeth next the base on the internal margin (2).

*Maxillæ* slender, bent, acute, sparingly ciliated internally with rigid bristles. *Palpi*, internal biarticulate, basal joint the longest; external 4-jointed, basal joint small, 2nd large, 3rd rather slender short, 4th the longest, more robust (3).

*Mentum* very broad but short, emarginate, producing a bifid tooth in the centre. *Palpi* rather long, attached to scapes at the base, 3-jointed, basal joint slender curved, 2nd and 3rd of nearly equal length, subclavate. *Lip* rather small, trilobed (4).

Head subtrigonal. *Eyes* large very prominent. Thorax more or less quadrate. Scutellum minute triangular. Coleoptra oval. Wings ample. Legs; anterior the shortest. *Tibiæ* spurred, anterior having a spine on the side near the apex, where it is sloped off, or slightly emarginate. *Tarsi* 5-jointed, anterior slightly dilated in the males, basal and terminal joints the longest (5, a fore leg).

Obs. the dissections were made from *E. uliginosus*.

ULIGINOSUS *Fab. Ent. Syst. v. 1. pars 1. p. 178. n. 1.—Dej. Spec. Col. 2. 269. 1.*

Dull æneous, minutely punctured; mouth with a greenish tinge, head somewhat rosy, the latter with an impression between the eyes, which, as well as the antennæ are black. Thorax broader than the head, suborbicular, with several small foveæ and a short channel upon the back furcate anteriorly. Elytra with 4 cate-nulated striæ formed of violaceous spots connected by black smooth and shining convex spaces. Legs chalybeous; thighs and underside of the insect æneous green.

*In the Cabinets of Mr. Ingpen and the Author.*

THE Elaphri so far resemble the Cicindelæ in habit, that Linnæus included them in the latter genus; and although the credit is due to Fabricius for having first characterized them, it is evident he considered them closely allied, from his having placed Elaphrus next to Cicindela in his different works. Latreille in this respect followed Fabricius, making Elaphrus lead off to Bembidium; but in his latter works he has removed them nearly to the end of the Carabidæ. Dejean has departed altogether from the other arrangements, and has placed Elaphrus in the midst of the Carabidæ and removed the Bembidia to the end of this family. We cannot but regret this change, because it also removes to an unnatural situation the genus Omophron, which seems ordained by Nature so perfectly to connect the Carabidæ with the Dyticidæ.

Our genus contains the three following British species.

1. *E. uliginosus* *Fab.*

There can be no doubt but this is the true *E. uliginosus* of Fabricius, since he describes the legs black, which although not strictly correct, because they are tinged with green and blue, renders it impossible to apply it to *E. cupreus*, in which the tibiæ are ferruginous, the extremities only being black or green: from the latter it may also be distinguished by a larger and more orbicular thorax, the channel in the centre being much more shallow; and in our specimens the violet-coloured spots on the elytra were considerably smaller. This species is the more common one on the continent, but is by far the rarest in this country, having been detected I believe only in the neighbourhood of the metropolis. The specimen figured was taken by Mr. Ingpen the 18th of September 1824, out of the rotten stump of an old willow-tree, in a marshy place near Chelsea.

2. *E. cupreus* *Meg.*—*Dej. Spec. Col.* 2. 271. 2.—*riparius* *Oliv.?*  
*v. 2. t. 1. f. 1.*

This is our most common species, being found on the borders of lakes and ponds throughout the kingdom, from April to August; these insects run upon the mud, when the sun shines, with great rapidity, and are difficult to capture.

3. *E. riparius* *Linn.*—*Don.* 9. 301.—*Panz.* 20. 1.

This pretty species is to be seen from March to July running by the edges of ponds, upon moist banks, and wet open spaces in woods.

The plant is *Cardamine pratensis* (Common Ladies' Smock).







## CALLISTUS LUNATUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.*

*Type of the Genus Carabus lunatus Fab.*

**CALLISTUS** *Bonelli, Panz., Leach, Dej.*—*Carabus Fab., Oliv., Marsh.*

*Antennæ* inserted before the eyes, at the base of the mandibles, compressed, subclavate, pubescent, 11-jointed, basal joint subovate, 2nd minute, 3rd and 4th of equal length, the former being more slender, the remainder decreasing in length to the terminal joint which is ovate (fig. 6).

*Labrum* transverse quadrate, slightly emarginate and producing a few bristles on the anterior margin (1).

*Mandibles* alike, rather small and slender, bent, very acute, armed with 4 small teeth near the base on the internal side (2).

*Maxillæ* very slender, slightly bent, acute, ciliated on the internal margin. *Palpi*; *internal* forming one long compressed lobe; *external* 4-jointed, basal joint minute, 2nd robust, 3rd clavate, 4th elongate-ovate, truncated (3).

*Mentum* broad transverse, trilobed, the centre one trigonate, not emarginate. *Lip* membranous quadrate, each side produced into a spine. *Palpi* attached to 2 scapes, 3-jointed, basal joint minute, 2nd and 3rd of equal length, the former clavate pilose, the latter fusiform terminated by a vesicle (4).

*Head subtrigonate. Eyes small. Thorax broader than the head cordate truncate. Scutellum very minute. Coleoptra slightly convex, oval, broader than the thorax. Wings as long as the body. Legs formed for running, posterior pair the longest. Tibiæ, anterior emarginate. Tarsi 5-jointed, 3 basal joints dilated in the males (5, a fore leg).*

**LUNATUS** *Fab. Ent. Syst. v. 1. pars 1. p. 163. n. 172.*—*Marsh. Ent. Brit. 466. 91.*

Pubescent. Head violaceous tinged with green, strongly and thickly punctured; mouth ferruginous, palpi inclining to brown. Eyes and antennæ black, the 1st and 2nd joints of the latter ochraceous. Thorax dull rufous, coarsely punctured, with an obscure channel down the middle. Elytra ochraceous, becoming straw-coloured towards the extremity; a black spot on each shoulder, a large black spot on each side near the middle united on the margin to a waved fascia nearer the apex of the same colour; 9 faintly punctured striæ on each elytron, that next the scutellum very short. Legs black; base of the thighs, middle of the tibiæ and claws ochraceous; the tarsi are brown.

*In the Author's and other Cabinets.*

THE genus *Callistus*, which contains but one species, is characterized by a small mouth, the parts composing it being weak: all the joints of the antennæ are pubescent, although it is common with the Carabidæ to have the 3 first joints naked, or at most producing only 2 or 3 bristles on each; the hinder tibiæ are very long; and the internal maxillary palpus is not biarticulate but forms one lobe. We wish here to observe, that the example dissected was a male in which the external maxillary palpi were deficient; they were consequently drawn from our cabinet specimen, which may have slightly affected their relative proportions.

*Callistus lunatus* is not uncommon in France and other parts of the continent, where it is found under stones; but in this country it is a very local if not a very rare insect, being attached to chalky districts, particularly those of Kent, in which county a specimen was captured the beginning of last May under a flint stone on a chalky bank near Sittingbourne, by Mr. A. Mathews of Turnham Green: the year previous 2 specimens were taken the middle of June, one in a corn-field, the other in Coomb Wood, near Dover, by Mr. R. L. Leplastrier\*, of whom we purchased the individual figured.

The plant is *Scabiosa columbaria* (Small Scabious).

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\* We recommend Entomologists who visit Dover to call upon Mr. Leplastrier of Snargate Street, who disposes on very reasonable terms of British Insects principally collected by his son in the neighbourhood.





*Fig. 1. 2. 3. 4. 5.*

## LASIOCAMPA MEDICAGINIS.

The Medick Eggar.

ORDER Lepidoptera. FAM. Bombycidæ *Lat., Leach.**Type of the Genus Bombyx Quercus Linn.*LASIOCAMPA *Schr., Germ., Leach.*—Gastropacha *Och.*—Bombyx *Linn., Fab., Lat., Haw.**Antennæ* inserted towards the hind part of the head, nearly straight, setaceous, strongly bipectinated in the males, each branch being ciliated and producing a rigid bristle near the apex, inclining upward (fig. 1) : serrated in the females (2).*Maxillæ* and *Mandibles* none.*Palpi* 2, small short hairy (4) ; 3-jointed, 1st and 2nd joints robust, the former the longest, 3d minute ovate (4 a).

Males smaller than the females.

Head short. Eyes small (7). Thorax large not crested. Abdomen of the males attenuated and divided at the apex ; robust and subovate in the females. Wings entire, deflexed when at rest. Tarsi 5-jointed. Claws and Pulvilli distinct.

Caterpillars with 6 pectoral, 8 abdominal, and 2 anal feet ; cylindrical and hairy, curling themselves up when disturbed.

Pupæ inclosed in an obtuse oblong cocoon of very close texture.

MEDICAGINIS *Och. Schmet. v. 3. p. 264.**Male* dull castaneous, abdomen brighter. *Antennæ* dull ochraceous. Eyes cinereous. Wings, superior sparingly speckled with ochraceous hairs, an abbreviated and sinuated fascia near the base, and another beyond the middle slightly denticulated on the internal side, dull ochre ; a cream-coloured spot near the disk approaching the costa : inferior wings rather paler, darkest towards the abdomen with a curved pale rather obscure line crossing near the middle.*In the Cabinet of Mr. Stone.*

THIS natural genus of Schrank having been sunk by Ochseneimer, together with several others, to form his large group *Gastropacha*, it becomes necessary to show our grounds for again separating them, which may be done in the following tabular form.

## A.

Palpi long. Inferior wings when at rest projecting beyond the costa of the superior. Larvæ not cylindric, having fascicles of hair down the sides and a dorsal tubercle near the apex. Cocoons long, attenuated, silky and soft.

a. Antennæ curved. Tongue short. Wings denticulated.

*Gastropacha.*

b. Antennæ straight. Tongue none. Wings not denticulated.

*Odonestis.*

## B.

Palpi minute. Inferior wings not projecting when at rest. Larvæ cylindric clothed with hairs. Cocoons oblong, obtuse, dense and rigid in texture.

*Lasiocampa.*

1. *Quereus* Linn.—Don. Brit. Ins. 3. 103 & 104.—Spartii Hib.—Esp. 3. tab. 13. f. 2 & 3. a variety of *L. Quercus*.
2. *Medicaginis*.
3. *Trifolii* Fab.—Linn. Trans. v. 3. pl. 4. f. 1. —Sepp, v. 2. tab. 13 & 14.
4. *Rubi* Linn.—Don. 2. 69.—Sepp, v. 2. tab. 7, 8, & 9.

The characters that distinguish *L. Medicaginis* from *L. Trifolii* are the abbreviated fascia next the base of the superior and the obscure one across the inferior wings: the breadth of that which is parallel to the posterior margin of the upper wings is also greater. Were it not for Esper's figure of the caterpillar (from which ours is copied, and which is referred to by Oehsenheimer) being very different from those of *L. Trifolii*, so beautifully represented by Sepp, we should have considered *L. Medicaginis* as a variety only of that insect. Five caterpillars were found near Lyndhurst the end of June, by Mr. Joseph Standish, who fed them upon heath, grass, and medick until the beginning of July, when they were full grown and changed to pupæ, from whence they emerged the beginning of the following August.

The reader is referred to Mr. Haworth's *Lepidoptera Britannica* (p. 82) for an amusing account of the assembling of males by a virgin female, and to the *Introduction to Entomology* (vol. i. p. 131), for observations upon a singular property which the larvæ of this genus possess, the hair creating excessive irritation and pain when applied to the skin.

The larvæ will probably feed upon most of the Trefoils and Medicks, as the plant figured, *Trifolium pratense* (the Common Purple Trefoil), is said to be its food, as well as *Medicago lupulina* (pl. 6), from which our insect has received its name.







## RHINGIA CAMPESTRIS.

ORDER Diptera. FAM. Syrphidæ *Lat., Leach.*

*Type of the Genus Conops rostrata Linn.*

RHINGIA *Scop., Fab., Lat., Meig., Panz.*—*Conops Linn.*—*Musca DeGeer.*

*Antennæ* inserted in front on an elevated portion of the head, porrected; 5-jointed, basal joint small, 2nd larger subclavate pilose, 3rd the largest subcordiform, 4th minute, inserted on the side of the 3rd near the base producing a long slightly pubescent bristle (fig. 3).

*Labrum* long broad, hollow thin transparent, trilobed at the apex (1, b).

*Tongue* nearly as long as the labrum, thin transparent, lanceolate (c).

*Mandibles* none.

*Maxillæ* as long as the tongue, slender acute (e). *Palpi* long, united to the maxillæ at their base, detached towards the extremity, which is bent clavate and slightly hairy (f).

*Lip* retractile long fleshy pilose, terminated by 2 long lobes (g). *Proboscis* very long. (2 g). Head *subtrigonal*. *Nasus* produced, forming a long conical horn, hollow to receive the proboscis. *Eyes* contiguous in the males, remote in the females (2\*). *Ocelli* 3 in triangle at the base of the head. *Thorax* globose. *Scutellum* semi-orbicular. *Abdomen* ovate shorter than the Wings, which are horizontal and incumbent when at rest, containing about 13 cells. *Halteres* small clavate. *Legs* simple. *Tarsi* 5-jointed, basal joint the longest and robust in the hinder pair, 4th joint minute. *Pulvilli* and *Claws* distinct (8, a fore leg).

CAMPESTRIS *Meig. Syst. Besch. v. 3. p. 259. n. 2.*—*rostrata DeGeer, v. 6. tab. 7. f. 21—23.*

Nose ochraceous black at the apex. *Eyes* rosy black. *Thorax* æneous black, with 2 pale abbreviated lines on the back. *Scutellum* dull castaneous. *Abdomen* bright ochre; basal joint, margins of the segments, a line on each side, and another down the back tapering to the apex, dark brown. *Wings* slightly iridescent, yellowish fuscous, darkest at the costa, nervures brown. *Legs* dull ochre. *Thighs* black at the base: *tibiæ* with a dark ring in the middle most distinct in the hinder pair: *tarsi* blackish above.

*In the Author's and other Cabinets.*

THE very prominent horn in front of the head, as well as the remarkably long rostrum which this insect inserts into flowers whilst on the wing, are sufficient characters to mark the genus *Rhingia*, of which there are but two European species known, and both of them are inhabitants of this country.

1. *R. campestris* Meig. 3. 259.

Common in May, June, and July, flying round and settling upon flowers in gardens, or sunny banks, &c.

2. *R. rostrata* Linn.—*Fab.*, *Panz.* 87. 22.

Less common than the other species; it is attached to the same situations; and has been observed from June to September in the neighbourhood of London and in the counties of Devon and Westmoreland.

The species figured (*R. campestris*) has been universally considered in this country as the *Conops rostrata* of Linnæus; but upon consulting his description we perfectly coincide with Meigen, to whom we are indebted for this correction, that the insect figured by Panzer answers best to the definition in the *Systema Naturæ*.

*Lychnis dioica*, var. *diurna* (Red Campion), figured in the plate, is a plant to the flowers of which our genus is particularly attached.





*Chrysomelidae*

## AGONUM AUSTRIACUM.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.**Type of the Genus Carabus marginatus Linn.*AGONUM *Bonell., Leach, Sturm, Dej., Lat.*—*Harpalus Lat., Gyll.*—*Carabus Linn., Fab., Marsh., Panz.**Antennæ* inserted before the eyes at the base of the mandibles, rather long and filiform, pubescent, excepting the three 1st joints; 11-jointed, the 1st rather long and robust, 2nd small, the remainder of nearly equal length, the 4th being scarcely shorter than the 3rd; the terminal joint attenuated (fig. 6).*Labrum* transverse quadrate, rather broadest at the base, scarcely emarginate at the anterior margin which produces a few bristles (1).*Mandibles* bent acute, having a few small teeth on the internal margin close to the base (2).*Maxillæ* bent, acute, ciliated with strong bristles on the internal margin. *Palpi*; *internal* biarticulate, basal joint clavate, terminal joint slightly bent and tapering to the extremities; *external* long, 4-jointed, basal joint small, 2nd long robust, 3rd and 4th shorter, of equal length, the former clavate truncate, the latter fusiform truncate (3).*Mentum* transverse short trilobed, the centre lobe triangular simple.*Labium* elongate-quadrate, lobed on each side, the centre dilated at the extremity. *Palpi* arising from long scapes, 3-jointed, basal joint small, 2nd and 3rd of equal length, the former clavate, the latter fusiform truncate (4).

Head somewhat oblong. Eyes small. Thorax flat, sides convex, posterior angles rounded. Scutellum triangular. Coleoptera oblong, depressed, emarginate at the apex, generally with punctures between the 3rd and 4th striæ. Wings ample. Legs formed for running, posterior the longest. Tibiæ, anterior emarginate. Tarsi 5-jointed, anterior pair with the 3 first joints dilated in the males. Claws simple (5, a fore leg).

AUSTRIACUM *Fab. Syst. Eleut. t. 1. p. 198. n. 157.*—*nigricorne Panz. 6, 4.*—*Oliv. pl. 12. f. 143.*—*modestum Sturm.*Smooth, shining. *Antennæ* brown, 3 first joints shining black. Head green inclining to cupreous. Thorax cupreous with a green tinge, a channel down the centre and a shallow thickly punctured fovea on each side near the posterior angles. Elytra bright green sometimes inclining to yellow, with 9 punctured striæ on each, that next the scutellum abbreviated, 4 minute foveæ between the 3rd and 4th striæ and a row of deep impressions upon the last. Legs black.*In the Cabinet of the British Museum.*

As writers differ very much in their ideas respecting the affinities of our genus, we shall wait until we have gained a better

knowledge of other groups of the Carabidæ, before we give an opinion upon so difficult a question; and as there is nothing remarkable in the trophi, we shall pass on to the synoptic table, which will be of more real utility than speculations.

The following 19 species (with the exception of the 3rd) are in the Author's cabinet:

\* Thorax suborbicular.

1. *A. marginatum* Linn.—Panz. 30. 12.—June and July, marshes.
2. *sexpunctatum* Linn.—Panz. 30. 11. *Samouelle*, pl. 3. f. 20.—May. Sexton Wood, Beddingham, Norfolk; and Coombe Wood near London.
3. *Austriacum* Fab.—Taken by the late Mr. J. Cranch, in Devonshire.
4. *parumpunctatum* Fab.—Panz. 92. 4.—*caerulescens* Marsh.—*8-punctatus* Marsh.—April, May, and June, common everywhere.
5. *viduum* Ill.—Panz. 37. 18.—*vernale* Payk.—Common in Norfolk.
6. *Æsopus* Leach.—Taken near London.
7. *versutum* Sturm's *Deut. Faun. tab.* 132. A.—Ditto.
8. *mœstum* Duft., Sturm's *D. F. t.* 134. B.—Ditto.
9. *afrum* Sturm's *D. F. tab.* 134. A.—Car. after Duft.—Common in Norfolk.
10. *atratum* Dahl.—Sturm's *D. F. tab.* 135. A.—*nigrum* Dej.
11. *Bogemannii* Gyll. v. 3. p. 697.—From Dr. Leach.

\*\* Thorax somewhat obovate.

12. *nitidum* Steph.—From Mr. Blunt's cabinet.
13. *gracile* Sturm's *D. F. tab.* 136. A.
14. *pullum* Leach?
15. *piceum* of the *Linneæan Cabinet*.—April 1810, taken at Horning, Norfolk.
16. *Simpsoni* Spence.—April, moist banks.
17. *picipes* Fab.—*lutescens* Panz. 30. 17.—April to July, moist banks.
18. *pelidnum* Payk.—Gyll.—Sturm's *D. F. tab.* 135. B.—Taken in Norfolk and near London.
19. *liveus* Gyll.—*bipunctatum* Sturm, *tab.* 133. B.—Norfolk, and upon a maple-tree at Bognor, Sussex, the beginning of August.

Fabricius being the first author that described and characterized *A. Austriacum*, we have adopted his name instead of "*nigricorne*," which would only be assisting to perpetuate the error into which Olivier and Panzer first led us, by copying Fabricius's description of *Carabus nigricornis* (which is a *Chlœnius*), and figuring *Agonum Austriacum* to illustrate it: Panzer has corrected this error in the "*Kritische Revision*."

The plant is *Serratula tinctoria* (Common Saw-wort).







## CALATHUS LATUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.*

*Type of the Genus Carabus eisteloides Ill.*

CALATHUS *Bon., Panz., Leach, Lat., Dej., Sturm.*—*Harpalus Lat.*—*Carabus Linn., Fab., Marsh.*

*Antennæ* inserted before the eyes at the base of the mandibles, filiform, composed of 11 joints of nearly equal length, excepting the 2nd, which is scarcely more than half the length of the 1st; 3 first joints naked, the remainder pubescent, terminal joint elongate-ovate (fig. 6).

*Labrum* transverse-quadrate, slightly narrowed and emarginate before and ciliated with a few bristles, anterior angles rounded (1). *Mandibles* slightly bent, acute, crenated near the base, one having a tooth near the middle on the internal side; the other, one nearer the base (2).

*Maxillæ* small, bent, acute, ciliated with bristles internally. *Palpi*; *internal* extending rather beyond the apex of the maxillæ, biarticulate, basal joint elavate, terminal one bent; *external* long 4-jointed, basal joint minute, remainder nearly of equal length, 2nd joint the most robust, 3rd elavate, 4th cylindric truncated (3).

*Mentum* semiorbicular, deeply emarginate, producing a bifid lobe in the centre. *Lip* rather long and rounded, producing a few bristles. *Palpi* long, arising from seapes, 3-jointed, basal joint minute, 2nd and 3rd large of nearly equal length, slightly elavate, the former having a few bristles, the latter truncate (4).

Head *subtrigonal* small. Eyes *small*. Thorax *trapeziform, depressed, twice as broad as the head*. Scutellum *minute, triangular*. Coleoptera *elliptic*. Wings, *generally rudiments only*. Legs, *hinder pair rather the longest*. Tibiæ, *anterior emarginate*. Tarsi, *anterior pair in the males with the 3 first joints dilated, the 2nd being the largest*. Claws *serrated (5, a fore leg of the male)*.

LATUS *Dejean.*—*frigidus Fab. Syst. Eleut.?*

Black shining. Head small. Thorax twice as broad as the head, lateral margins ferruginous, a shallow fovea on each side towards the base, where it is punctured and a channel down the middle. Elytra dull black, much broader than the thorax, especially towards the middle, with 9 minutely punctured striæ on each, the 1st abbreviated, the 4th and 6th having about 10 strong punctures on each, and the 9th marked with a row of stronger impressions. Palpi and antennæ ferruginous inclining to eastaneous, the basal joint of the latter being the palest. Legs piceous inclining to black.

*In the Cabinet of the British Museum.*

It is not improbable that *Calathus* will very naturally follow *Pacilus*, and lead by means of *C. piceus* of Marsham to *Synuchus*, with which genus it agrees in having serrated claws, a structure confined to the above genera, and to *Dolichus* and *Læmosthenes*, as observed by Latreille. The trophi are not unlike those of *Omascus* and *Steropus*, but the dilated joints in the tarsi of the males are of a very different form; and the contour of the whole insect is so characteristic, that we can at once distinguish the species comprised in this natural genus.

The following are our British species:

1. *C. latus* Dej., Nob.
2. *Cisteloides* Ill.—Panz. 11. 12.—*frigidus* Fab.—*Sturm*, pl. 121.—*fuscipes* Gmel.—*flavipes* & *obscurus* Marsh.—Common everywhere.
3. *flavipes* Payk.—*Duft.*—*Sturm*, pl. 122. A.—*fulvipes* Dej., not of Fab.—Taken in Devon in September.
4. *fuscus* Fab.—*ambiguus* Oliv. 3. tab. 12. f. 147.—*rufangulus* Marsh.—Not uncommon in the hedges in Darent Lane during the summer, and I have found it in September under stones in Suffolk.
5. *melanocephalus* Linn.—Panz. 30. 19.—*Don*. 14. 480.—Common everywhere.
6. *littoralis* Leach's MSS.—Not uncommon in April, June and September on the sea-shore in Suffolk and Devon.
7. *piceus* Marsh. 444. 32.—This insect varies from the typical form in having the thorax narrower behind.—It is occasionally taken in Norfolk and Devon.

Four specimens of *C. latus* have been taken by Dr. Leach in Devonshire: one in a salt marsh near the river Lary, 26th May 1826; a 2nd in a coppice, 11th June, near Plymouth; and two others near Mutley and on Lipstone Hill in the same neighbourhood. This insect does not appear to have been either described or figured in any other work, and I am indebted to Mr. Samouelle for the above satisfactory account of its habitats.

The plant figured is *Asperula odorata* (Sweet Woodroof).





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## HEPIALUS SYLVINUS.

## The Tawny and Brown Swift.

ORDER Lepidoptera. FAM. Bombycidæ *Lat., Leach.*

*Type of the Genus Noctua Humuli Linn.*

HEPIALUS *Fab., Lat., Haw., Leach.*—Hepiolus *Och.*—Bombyx *Hüb.*  
—Phalæna (noctua) *Linn.*

*Antennæ* inserted between the eyes, in front of the head, setaceous, very short, composed of about 20 joints of which the basal one is the most robust (fig. 2); the males of some having a single row of pectinations, the branches ciliated (1).

*Labrum*  
*Mandibles and* } none.  
*Maxillæ*

*Palpi* wanting, a tuft of hair only arising where the labial palpi are usually attached (4).

Males smaller than the females. Head small. Eyes small, but covering the side of the head (7\*). Thorax woolly. Abdomen rather long, slightly attenuated and tufted in the males; more robust in the females. Wings very much deflexed when at rest, rather long and elliptic. Legs, anterior pair the largest, posterior the smallest. Tibiæ, anterior having no spine on the internal side; hinder not spurred but producing very long hair (8†), and dilated in some males (H,b). Tarsi 5-jointed, sometimes wanting in the posterior pair of the males (H). Claws long bent. Pulvilli distinct (8†, hind leg of H. Humuli.—H the same of H. Hectus: a, the thigh; b, the tibia; tarsus none).

Larvæ fleshy, naked, with 6 pectoral, 8 abdominal and 2 anal feet.

Pupæ with the segments denticulated on the sides.

SYLVINUS *Linn. Faun. Suec. 2. 306. 1151.*—Crux *Fab., mas.*—Angulum *Haw., mas.*—Hamma *Ill.*—Lupulinus *Hüb., Haw., fem.*

*Male* fulvous, antennæ pectinated, thorax and legs inclining to castaneous; superior wings variegated with chesnut, an oblique sinuated white line near the base united at right angles to another at the interior margin, which latter terminates near the apex; a triangular fuscous spot near the disk; the costa variegated with fuscous and an indented line of the same colour at the base of the cilia: inferior wings and abdomen fuscous, the apex of the latter and the cilia pale castaneous.

*Female* brown, antennæ serrated, ochraceous; superior wings variegated with pale brown and clouded next the costa; a large space next the base dirty white; an oblique irregular monilliform row of spots somewhat parallel to the posterior margin surrounded with dirty white, and another fuscous row between it and the cilia; a large oblong fuscous spot in the disk margined with dirty white.

*In the Author's and other Cabinets.*

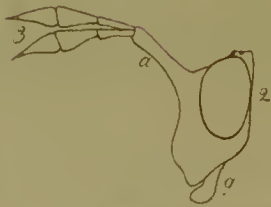
THE *Hepiali* have generally been considered as the connecting link of the Sphingidæ and Bombycidæ; to some of the Zygaenidæ the larvæ are very analogous in habit as well as economy, and the passage from *Hepialus* by means of *Cossus* and *Zeuzera* to *Saturnia*, as proposed by Latreille in his *Considérations Générales*, is we think most admirable. Our genus will admit of divisions, since the antennæ of the males are simple in some species, and in others they are pectinated; the hinder legs of the males of *H. Humuli* are beautifully ornamented with long hair as represented at figure 8†, which may assist them in their singular undulating flight, and those of the same sex of *H. Hectus*, which have no feet (vide fig. H), have a dilated clavate tibia furnished with long hairy scales, which enables them most probably to perform their curious vacillating evolutions, very naturally compared to the pendulum of a clock in motion. These insects are rendered still more remarkable by being entirely destitute of trophi; for although Fabricius has assigned to them palpi and the rudiments of a tongue in his generic characters, we can detect neither.

The genus contains the following British species:

1. *H. Humuli* Linn.—Don. 8. 274. *mas.* & *fem.*—Appears the middle of June, in grassy places; the larvæ are found in August feeding upon the roots of *Humulus Lupulus*, the common Hop.
2. *Lupulinus* Linn.—Fab., *fem.*—Hüb., Och.—obliquus Fab., *mas.*,—Coq. t. 7. f. 6.—Harris, pl. 22. f. 1.—Harw. Flina Hüb., *fem.*—fuscus & nebulosus Harw.—End of May, meadows.
3. *Velleda* Esp., Hüb., Harw.—Mappa Don. 10. 360. 3.—June: Darent Wood, Kent; Ambleside, and Stirling.
4. *carnus* Fab., Och., Hüb. *mas.*—Jodutta P. ? Hüb., *fem.*—Near Stirling Castle, and outside a wood by Ambleside; in company with the last.
5. *sylvinus* Linn., &c.—Found about weedy banks in August and September:—there can no longer be any doubt that the two insects figured are the sexes, since they are not only considered as such on the continent, but they have been repeatedly taken in pairs in this country.
6. *Hectus* Linn.—Fab.—Don. 8. 274. *mas.*—Schæf. Icon. 115. 1. & 2.—Jodutta Schr., Esp.—Found in open places in woods, the middle of June.

*Alchemilla vulgaris* (Common Lady's Mantle) is represented in the plate.





*Chrysis (Chrysis) ...*



## CERIA CONOPSOIDES.

ORDER Diptera. FAM. Syrphidæ *Lat., Leach., Meig.*

*Type of the Genus Musca conopsoides Linn.*

CERIA *Fab., Lat., Meig., Ill., Leach.*—*Syrphus Panz.*—*Musca Linn.*

*Antennæ* inserted at the extremity of a peduncle in front of the head, pubescent, 4-jointed, clavate, basal joint cylindric-clavate, 2nd and 3rd robust lanceolate compressed and velvety, the 4th forming an acuminate apex (fig. 3).

*Labrum* not so long as the lip, horny rounded, hollow to receive the tongue (1, b).

*Tongue* shorter than the labrum, acuminate (c).

*Mandibles* none.

*Maxillæ* short, bent and compressed (e). *Palpi* as long as the tongue, membranous compressed dilated, biarticulate, basal joint long, 2nd rhomboidal pubescent (f).

*Lip* large fleshy, terminated by 2 slightly pilose lobes (g).

*Proboscis* short, vertical (2 g). *Head* large vertical, with a horn in front (2 a). *Eyes* contiguous in the males (2\*), remote in the females. *Ocelli* 3 in triangle. *Thorax* quadrate rounded behind. *Scutellum* semicircular. *Abdomen* cylindric, subclavate, more robust in the females. *Wings* divaricating? containing about 10 perfect cells. *Halteres* small. *Legs* rather robust. *Tibiæ* subclavate. *Tarsi* 5-jointed, basal joint the longest, 4th very short, deeply cleft. *Claws* rather small. *Palvilli* distinct (8, a fore leg).

CONOPSOIDES *Linn. Faun. Suec.* 1790.—*clavicornis Fab. Ent. Syst.* 4. 277. 1. *Meig. Syst. Besch.* 3. 160. 2.

Black, shining, thickly and minutely punctured, covered with very short pubescence. *Head* variegated with yellow, the process to which the antennæ are attached very long and ferruginous, base and apex of antennæ brown. *Thorax* with the anterior angles and 2 spots on each side above the insertion of the wings yellow, base of scutellum and halteres of the same colour; basal angles of abdomen and the margins of the 2nd 3rd and 4th segments pale yellow. *Wings* yellowish fuscous, a broad stripe upon the costa brown, nervures deep brown. *Legs* pale ferruginous; thighs black, except at their extremities; tibiæ fuscous towards their apex; posterior tarsi dull castaneous.

*In the Cabinet of the British Museum.*

THE extraordinary elongation of the head of *Ceria*, which forms a horn at the fore part, longer in some than in other species, will be an unerring mark to characterize the genus: the nervures of the wings are also peculiar as well as the incrassated basal angles of the abdomen.

Upon the continent two other species are known and described, one distinguished by a short peduncle (as the process has been called) to the antennæ, the other by the legs being entirely yellow, characters which might easily be overlooked by those who are not acquainted with the specific distinctions. The only species at present detected in this country is *C. conopsoides*, of which the female figured in the plate, presented by Dr. Leach to the British Museum many years back, is the only indigenous specimen that has come to our knowledge; and I regret that I am not able to give its locality or any satisfactory account of its capture: upon the continent our insect is found from May to October, and is not very uncommon.

The plant is *Briza media* (Common Quaker-grass or Maiden's Hair).





*Ant. typ. Curcul. ...*

## PŒCILUS LEPIDUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.**Type of the Genus Carabus cupreus Linn.*PŒCILUS *Bon., Panz., Leach, Lat.*—*Platysma Sturm.*—*Harpalus Gyll.*—*Carabus Linn., Fub., Marsh.*

*Antennæ* inserted before the eyes at the base of the mandibles, as long as the thorax, compressed, pubescent excepting the 3 basal joints which produce only a few bristles; 11-jointed, basal joint the most robust, 2nd the smallest, 3rd the longest, the remainder of nearly equal length, the terminal joint rather longer, oblong, compressed at the apex (fig. 6).

*Labrum* subquadrate, angles rounded, anterior margin producing bristles, and slightly emarginate (1).

*Mandibles* rather slender, bent, acute, denticulated towards the base, one having a tooth near the middle on the internal side (2).

*Maxillæ* short, bent, acute, ciliated with strong bristles internally.

*Palpi*; *internal* not longer than the maxillæ, biarticulate, basal joint elavate, 2nd bent; *external* long, 4-jointed, basal joint minute, 2nd and 3rd of nearly equal length, the former the most robust, the latter elavate, 4th rather shorter, subcylindric truncate (3).

*Mentum* transverse, deeply emarginate, the centre producing an obtuse lobe. *Lip* long, subquadrate, the centre furnished with 2 bristles, the sides forming 2 membranous acuminate lobes.

*Palpi* 3-jointed, arising from long scapes, not remote, basal joint small, 2nd and 3rd long of equal length, the latter truncated (4).

Head rather large. Eyes small. Thorax subquadrate, base truncated, 2 channels or foveæ on each side near the posterior angles, which are acute. Scutellum minute. Elytra abruptly emarginate near the apex, the abbreviated stria very much longer than the scutellum. Wings, sometimes rudiments only. Tibiæ, anterior deeply emarginate. Tarsi 5-jointed, anterior with the 3 first joints cordiform and dilated in the males. Claws simple, bent, acute (5, a fore leg).

LEPIDUS *Payk.; Fab. Ent. Syst. v. 1. pars 1. p. 153. n. 124.*—*vulgaris DeGeer*—*var. f. cœruleseens Herbst.*

*Var. f.*: deep blue with a violet tinge, long, narrow, smooth and shining. Head with a channel on each side the nasus. Thorax inclining to green, quadrate, sides rounded, rather narrowed behind, a channel down the centre and 2 very deep and short impressions at the posterior angles which are punctured. Elytra long and narrow with 8 punctured striæ on each, the 1st fureate at the base; on the sutural side of the 3rd are 3 impressed points, and the 8th is punctured with larger marks especially towards the apex. Wings none. Mandibles, antennæ, legs and underside black: trochanters very long, extending beyond the margins of the elytra.

*In the Author's and other Cabinets.*

THE obtuse somewhat truncated tooth or lobe in the centre of the mentum of *Pœcilus* is the only character that is essentially different from many other genera that are closely allied to it: there are however minuter differences in the trophi, which may be of importance as they bear upon neighbouring genera, and will be pointed out as opportunities offer; and in our British species at least, the great length of the abbreviated stria next the scutellum, which is frequently united to the 2nd, thereby making that fureate at the base, appears to be a constant character.

About 20 species of this genus have been enumerated or described, most of which are inhabitants of Europe, but this country has hitherto only presented four.

1. *P. lepidus* Payk. &c.
2. *dimidiatus* Fab. — *Don.* 16. 565. — *Kugellani ill.* — *Panz.* 39. 8. — *tricolor* Fab.?
3. *cupreus* Linn. — *Don.* 16. 554. — *Panz.* 75. 2. — var. *α cærulescens* Linn.
4. *versicolor* Sturm's *Deut. Faun. pl.* 120. *f. b. c.*

The 1st is a rare species in this country; it has been found in June in Norfolk, Hants, and Devon: it varies from a fine copper colour, to blue and black, with all the intermediate gradations of tint. The one represented in the plate is from the cabinet of Mr. Samouelle to whom it was transmitted from Devon, by Dr. Leach.

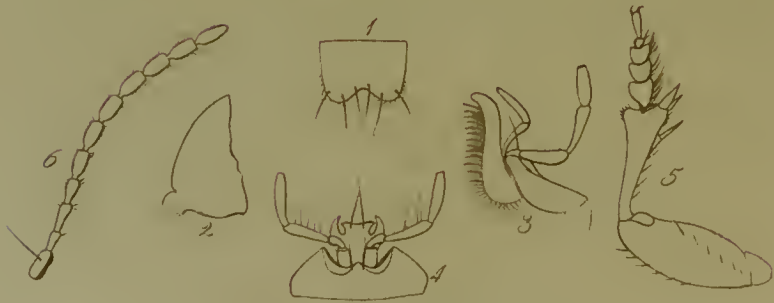
The 2nd is a handsome though not a rare species, occasionally appearing black: it is generally found under stones in April, May, and June.

The 3rd is one of our commonest insects, abounding from April to August, in fields, meadows &c., where at every step it is often seen running across our path. These beetles are also found in gravel and sand pits, where they live, and are well supplied with food from the numerous insects that fall into those traps, until they are destroyed either by the rays of the sun or excess of rain.

The 4th is probably nothing more than a small variety of *P. cupreus*.

The plant is *Hordeum murinum*, Wall Barley.





*Carabus (C.) ...*



## ZABRUS OBESUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.*

*Type of the Genus Carabus gibbus Fab.*

ZABRUS *Clairv., Bon., Leach, Sturm.*—Harpalus *Lat., Gyll.*—Carabus *Fab., Marsh., Panz.*

*Antennæ* inserted close to the base of the mandibles, rather short, filiform and pubescent, excepting the 3 first joints; 11-jointed, basal joint robust oblong, 2nd the shortest, 3rd clavate, 4th scarcely so long as the preceding one, the remainder of equal length, excepting the last, which is rather longer and ovate (fig. 6).

*Labrum* subquadrate, rather narrowed before, the anterior angles very round and the margin deeply notched, producing short bristles on the sides, and a few long ones in front (1).

*Mandibles* subtrigonal, but little bent, one being sinuated on the internal margin (2).

*Maxillæ* long, the lobe narrow obtuse and ciliated with strong bristles. *Palpi*; *internal* long, very slender, composed of 2 joints of equal length, the former clavate, the latter slightly curved, attenuated and truncated; *external* rather robust, 4-jointed, basal joint short, 2nd and 3rd long of equal length, the latter subclavate, the 4th short, subovate truncate (3).

*Mentum* transverse, emarginate, with an obtuse simple tooth in the centre. *Labium* broad, horny dilated at the apex, producing a membranous incurved lobe on each side. *Palpi* 3-jointed arising from scapes, basal joint short slender, 2nd and 3rd of nearly equal length, the former subclavate pilose, the latter subfusiform and truncate (4).

Head rather short and broad. Eyes small. Thorax very broad and gibbous, the sides convex, angles sometimes rounded. Coleoptera very convex and notched externally near the apex. Scutellum triangular. Wings ample. Thighs robust. Tibiæ suddenly dilated at the apex, armed with short spines and spurs; the anterior very much dilated towards their extremities, slightly notched and spined on the internal side near the apex. Tarsi slender, the anterior with the 3 basal joints dilated in the males. Claws simple (5, a fore leg).

OBESUS *Lat., Dej., Sturm.*

Male black, smooth, shining. Mouth ferruginous; mandibles and labrum castaneous inclining to black. Head broad. Thorax transverse, with an æneous tinge on the margins; a transverse impression before, a faint channel down the centre, a fovea on each side near the base where it is punctured, the posterior angles rounded and slightly produced. Scutellum obsolete. Elytra slightly æneous, with 9 obscurely punctured striæ on each, the 1st very short; a row of deep punctures at the external margin. Antennæ, legs, and underside piceous inclining to castaneous; anterior tarsi of the latter colour.

Female duller. Elytra inclining more to dull cupreous.

*In the Cabinet of the British Museum.*

ZABRUS approaches very near to Harpalus in structure, but its convex form and the simple intermediate tarsi of the males, readily distinguish it from that genus: the obtuse maxillæ, the shortness of the terminal joint of the external maxillary palpi, the simple tooth of the mentum, and the powerful anterior tibiæ are also essential characters. In Britain there are but two species.

1. *Z. gibbus* Fab.—*Clairv. Ent. Helv.* 2. tab. 11. f. a, b.—*Sturn's Deut. Faun.* tab. 98.—*Tenebroides* Pauz. 73. 8.—*spinipes* Scop.—*gibbosus* Marsh.

Found in August and September, in corn-fields, sandy situations, and at the roots of grass, in Norfolk, the Isle of Wight, Battersea Fields, &c.; and a gentleman informs me that he took four specimens last August upon an umbellate plant at Heron Court, Hants. Its economy is very interesting; and the following remarks upon the subject have been collected from *Germer's Magazin*, and *Sturn's Deutschlands Fauna*,—in both of which are figures of the larvæ, pupæ, &c.

In May, 1812 the larvæ did great mischief to the sprouts and roots of the wheat in the canton of Seeburg in Halberstadt. The female beetles deposited numerous clusters of eggs in the earth, which in a short time produced larvæ or grubs, that made their appearance upon the surface in the evening and night to feed upon the young stalks of the wheat, hiding themselves in the day six inches deep; when full-grown they were more than an inch long, at which period (the beginning of June) they descended by a curved cylindric passage sometimes to the depth of two feet, forming at the termination a smooth oval cavity to contain the pupa; after three or four weeks the beetles made their appearance, when they became very destructive by climbing up the stalks and feeding upon the grain. The larvæ are supposed to be long-lived; and with them were found a considerable number of the grubs of *Melolontha ruficornis* Fab.: hence arises a question whether both sorts of the larvæ were graminivorous: that the grubs of the latter insect feed upon vegetable substances there can be no doubt; but should those of *Zabrus* do so, it will be a remarkable exception amongst the Carabidæ, all of which are considered carnivorous; it is a very strong and curious fact, however, that when the *Zabri* in their perfect state were confined in a box with some ears of corn, they fed upon the grain as long as the supply lasted, after which they attacked one another.

2. *Z. obesus* Lat., *Nob.*

A pair of this rare insect, which has I believe never been either described or figured before, was taken near Plymouth by Dr. Leach the end of April, and presented by him to the British Museum.

The plant is *Geranium Pyrenaicum* (Mountain Crane's Bill).





*Pl. of Cuba. Nov 1 1827*

## ANACAMPSIS LONGICORNIS.

ORDER Lepidoptera. FAM. Tortrices Lat.

*Type of the Genus Tinea Populella Linn.*

ANACAMPSIS Nob. Volucra ? Lat.—Pyralis Lat.—Tinea Fab.—Phalæna (Tinea) Linn.

*Antennæ* alike in both sexes, remote, inserted close to the eyes (fig. 1); rather long and capillary, composed of numerous oblong joints, covered with short scales, the basal one subclavate. *Maxillæ* spiral, robust, shorter than the palpi, clothed with long scales externally (3).

*Labial Palpi* longer than the head, diverging, recurved, thickly covered with scales, those on the basal joint the broadest, forming a tuft on the inside (4); 3-jointed, 1st joint short clavate, 2nd very long robust cylindric curved, 3rd longer setaceous, slender and acuminate (4 a).

Head covered with close broad imbricated scales (7). Eyes not very small.

Ocelli 2, placed behind the antennæ (7 a). Wings horizontal and incumbent when at rest, longer than the body; superior linear lanceolate; inferior lanceolate, the cilia of the latter very long. Abdomen of the male sometimes depressed. Legs; posterior pair the longest. Thighs rather short. Tibiæ; anterior the shortest, with long scales only on the internal side, the others spurred at the apex, the posterior having 2 spurs also at the middle. Tarsi 5-jointed. Claws and Pulvilli minute (8†, a hind leg).

Caterpillars with 16 feet.

LONGICORNIS Nob.

Griseous; Head and thorax pale ferruginous sprinkled with brown. Antennæ nearly as long as the wings, black towards their apex. Abdomen dull black, the margins of the segments dull white. Wings; superior very long, sprinkled with black, an oblique abbreviated fascia near the base, one before and another beyond the middle pale ferruginous; the 1st and last with a large black spot on each, the intermediate having two elongated black spots, and a larger oval oblique black spot also next the posterior margin. Cilia fuscous, variegated with black. Inferior wings pale fuscous inclining to yellow. Legs; anterior black above, posterior whitish, annulated with fuscous.

Obs. Some specimens are much darker and the markings more obscure.

*In the Author's Cabinet.*

LATREILLE having included *Pyralis Heracleana* Fab. in his family of Tortrices, there can be little doubt of the propriety of associating our genus with that group; at the same time we must acknowledge that their situation does not appear to be

natural: the smaller moths, however, are so imperfectly understood, that it is impossible at present to determine the locations of many of them.

We regret that this extensive genus, which has been formed by Mr. Haworth, has not yet appeared in his *Lepidoptera Britannica*: we feel however, the more obliged to this gentleman for liberally allowing us to copy the following list from his MS.; it will be serviceable to lepidopterists, since the cabinet of that acute entomologist has been the source from whence we have derived the names by which the species are known.

1	<i>A. cinerea</i> L., <i>Hüb.</i>	18	<i>A. domestica</i> <i>Harw.</i>
2	<i>subcinerea</i> <i>Harw.</i>	19	<i>affinis</i> <i>Harw.</i>
3	<i>longicornis</i> <i>Nob.</i>	20	<i>diffinis</i> <i>Harw.</i>
4	<i>Juniperi</i> L., <i>Hüb.</i>	21	<i>contigua</i> <i>Harw.</i>
5	<i>Populi</i> L.	22	<i>sequax</i> <i>Hüb.</i> —6-punctella <i>F.?</i>
6	<i>rustica</i> <i>Hüb.</i>	23	<i>proxima</i> <i>Harw.</i>
7	<i>Listeri</i> L. ?	24	<i>maculea</i> <i>F.</i>
8	<i>nebulea</i> <i>Harw.</i> — <i>Populella</i> <i>Hüb.</i>	25	<i>Clematea</i> <i>F.</i> — <i>Alucita nivella</i> <i>F.?</i>
9	<i>Betulea</i> <i>Hüb.</i>	26	<i>Blattariæ</i> <i>Hüb.</i>
10	<i>lutarea</i> <i>Harw.</i> — <i>Verbascella</i> <i>Hüb.?</i>	27	<i>subrosea</i> <i>Harw.</i>
11	<i>rhombea</i> <i>Harw.</i> , <i>Hüb.</i> — <i>Moufettella</i> L. ?	28	<i>guttifera</i> <i>Harw.</i>
12	<i>dodecea</i> L. ?	29	<i>marmorea</i> <i>Harw.</i>
13	<i>aspera</i> <i>Harw.</i> — <i>Schellenbergella</i> <i>F.?</i>	30	<i>atra</i> <i>Harw.</i> — <i>exiguella</i> <i>F.?</i> <i>Hüb.</i>
14	<i>nigra</i> <i>Harw.</i>	31	<i>nana</i> <i>Hüb.</i> — <i>aleella</i> <i>F.</i>
15	<i>sarcitea</i> L. ?	32	<i>nivea</i> <i>F.?</i>
16	<i>punctifera</i> <i>Harw.</i> — <i>Pedisequella</i> <i>Hüb.?</i>	33	<i>interrupta</i> <i>Hüb.?</i>
17	<i>Hübneri</i> <i>Harw.</i> — <i>Grannella</i> <i>Hüb.</i>	34	<i>fulvescens</i> <i>Harw.</i>
		35	<i>fuscescens</i> <i>Harw.</i>

In the above list the Linnæan termination has been dropped, and for the sake of brevity the name has not been repeated; but in the works of Linnæus the names are '*cinerella*,' '*Juniperella*,' &c.

The pretty and distinct undescribed species figured, I bought of Mr. Weaver, who took it, I think, in Derbyshire; and I have since seen a male taken last summer by some ladies in Scotland.

*Sanicula europæa* (Common Sanicle) is figured in the plate.







## PERLA CEPHALOTES.

ORDER Neuroptera. FAM. Perlidæ Nob.—Perlides Lat.

*Type of the Genus Phryganea bicaudata Linn.*

PERLA Geoff., Lat., Leach.—Semblis Fab., Panz.—Phryganea Linn.

*Antennæ* remote, inserted before the eyes close to the base of the mandibles, about the length of the body, setaceous, composed of numerous joints, basal joint large, 2nd smaller, the remainder increasing in length to the apex, being transverse towards the base, and obovate at the extremity (fig. 1).

*Labrum* transverse, linear and pubescent (2).

*Mandibles* small, produced internally, pilose externally, acute at the apex, sometimes furnished with 2 short spines (3).

*Maxillæ* small, bilobed, internal lobe producing a few hairs and slightly notched, external much longer, narrower, and lanceolate, having an obscure mark of articulation at the apex. *Palpi* long, subsetaceous slender and pilose, 5-jointed, basal joint minute, 2nd the most robust, 3rd rather the longest, 4th nearly as long, 5th not longer than the 2nd (4).

*Mentum* large, covering the underside of the head, transverse sublunulate. *Lip* subquadrate, producing a fleshy lobe at each of the anterior angles. *Palpi* not long, 3-jointed, pubescent, joints of nearly equal length, the basal one the most robust, terminal the slenderest (5).

Males sometimes smaller than the females. Trophi submembranous.

Head horizontal, transverse ovate, very much depressed. Eyes lateral, not large but prominent. Ocelli 3 in triangle, hinder ones the largest (1 a). Thorax subquadrate. Mesothorax and Metathorax producing 2 pair of reticulated wings, incumbent and horizontal when at rest, of nearly equal length, the superior being the narrowest. Abdomen short, oblong-quadrate in some, the apex furnished with 2 long articulated setæ. Legs simple, longest in the males. Tibiæ not spined. Tarsi 3-jointed, glandular beneath, 1st and 2nd joints minute, 3rd long. Claws acute. Pulvilli globose (8, a fore leg).

OBS. The dissections were taken from a male of *P. marginata*.

CEPHALOTES Nob.

*Male* brown. Head considerably broader than the thorax, a transverse ochraceous spot between the eyes, the base of the same colour; thorax transverse quadrate, rugose, with a channel down the middle and an elevated line on each side curved outward. Abdomen inclining to ochre at the apex. Setæ not so long as the antennæ. Wings scarcely so long as the body; the inferior with 2 transverse nervures in the 4th discoidal cell.

*Female* 4 times as large as the male and much broader; abdomen frequently ochraceous, wings extending to the apex of the setæ, semitransparent, stained fuscous, rarely wanting the 2 transverse nervures in the under wings.

*In the Cabinets of Mr. Dale and the Author.*

THE insects of the genus now under investigation, like many others belonging to the same order, live in the water till they assume their perfect state, when they form a principal portion of the food of fishes, especially trouts, and are consequently well known to the angler.

The following is a list of our British species.

A. Abdomens very robust.

- |   |   |
|---|---|
| 1. <i>P. grandis</i> Nob.   | 3. <i>P. cephalotes</i> Nob.                  |
| 2. <i>marginata</i> Fab.—Panz. 71. 3.—<br>flavipes Lat., Geoff. ? | 4. <i>bicaudata</i> Linn., Fab., Panz. 71. 4. |

B. Abdomens slender.

- |                               |  |
|-------------------------------|--|
| 5. <i>P. fuscipennis</i> Nob. | 7. <i>P. viridis</i> Fab.—lutea Lat., Geoff. ? |
| 6. <i>media</i> Nob.          | 8. <i>minor</i> Nob.                           |

*P. grandis* is half as large again as the species figured, and has been taken I have understood near the Croydon Canal.

*P. marginata*. On the 4th of June Mr. Dale and myself found a few specimens of this insect upon a species of fern near Ambleside, and a few days after I took a considerable number, lying three and four together concealed amongst the foliage of the plant figured, as well as others that grew close to the water's edge, also the exuviae attached to a fern.

*P. cephalotes*. This species I found with the last; and although at first sight the two may be easily confounded, our insect is distinguished by a much broader head; the antennae wings and setae in the males are not longer than the body, the thorax is differently sculptured and transverse in the females, and there are with very few exceptions two transverse nervures on the disk of the inferior wings, which are always wanting in *P. marginata*, the exuvia of the latter is beautifully maculated, but in our insect it is entirely fuscous. The female sometimes carries a globular bundle of little black shining eggs at the apex of her abdomen. These two insects are a favourite food of the trout in Cumberland, and are succeeded by the Bracken-clock (*Anomala horticola*), and that again I believe by the Willow-fly (*P. viridis*).

*P. bicaudata* is known by an orange stripe down the head and thorax, and has been taken by Mr. Bracy Clark in Worcestershire, and in June upon Battersea bridge by Mr. Haworth.

*P. fuscipennis*, larger than *P. viridis*, with slightly fuscous wings. This I took in Scotland.

*P. media*, the size of the last with yellowish wings and black body,—beginning of June, on Oaks, &c., Ambleside.

*P. viridis*, smaller, thorax with a black margin, body pale with a black stripe. Beginning of June, upon Alders, New Forest.—Reaumur believes figures 8, 9 and 10, *pl.* 14, to be the larvæ and their cases of a small Perla (*pl.* 13. *f.* 12), which is probably this or a congenerous species.

*P. minor*, like the last, but only half the size; found near Ambleside, the beginning of June, running about in pairs, which proves they are not males of *P. viridis*.

*Trollius europæus* (Globe-flower) accompanies the insect.





at type. Curtis. London. 1827

## OPHONUS GERMANUS.

ORDER Coleoptera. FAM. Carabidæ Lat., Leach.

*Type of the Genus Carabus germanus Linn.*

OPHONUS Ziegl., Dej., Sturm, Lat.—Harpalus Lat., Bon., Leach, Sturm.—Carabus Linn., Fab., Marsh.

*Antennæ* inserted before the eyes at the base of the mandibles, subelavate, pubescent excepting the 2 first joints; 11-jointed, basal joint elongate-ovate, a little the stoutest; 2nd about half the length of the 1st; 3rd and following shorter than the 1st joint, excepting the terminal one which is the same length and subovate (fig. 6).

*Labrum* semiorbicular, emarginate and producing a few bristles in front (1).

*Mandibles* short, subtrigonal, not very acute, rather dilated towards the base on the internal side (2).

*Maxillæ* slender, bent, very acute, pubescent and ciliated. *Palpi* compressed; *internal* rather long biarticulate, basal joint slender, 2nd rather longer, bent ovate, acuminate; *external* scarcely longer than the labial, 4-jointed, basal joint minute, 2nd linear the longest, 3rd rather short clavate, 4th the most robust, short ovate (3).

*Mentum* broad and very short, deeply emarginate, the centre slightly produced. *Lip* long, producing a broad lobe on each side. *Palpi* attached to long moveable scapes, pilose, rather long, 3-jointed, basal joint minute, 2nd and 3rd long of equal length, the latter the most robust, fusiform truncate (4).

Superior surface *punctured and pubescent*. Head *subtrigonal rather broad*. Eyes *small*. Thorax *suborbicular or subquadrate, with the posterior angles sometimes rounded*. Scutellum *minute*. Elytra *slightly emarginated at the apex*. Wings *not very ample*. Legs *rather large*. Tibiæ, *anterior not deeply emarginate*. Tarsi *5-jointed, anterior and intermediate with the 4 first joints cordiform and dilated in the males*. Claws *simple* (5, fore leg of male).

Obs. *The dissections were made from C. nitidulus Schr.*

GERMANUS Linn. *Syst. Nat.* 2. p. 672. n. 26.—*Fab. Ent. Syst.* 1. pars 1. p. 162. n. 167.

Dull rufous, pubescent, thickly punctured. *Antennæ* reddish brown, excepting the 3 first joints. Head entirely rufous inclining to castaneous. Thorax deep blue with a violaceous tinge, the margins ferruginous; more strongly punctured than the head, a channel down the centre and a fovea on each side at the base. Scutellum blue. Elytra finely punctured with a large blue spot towards the apex; 8 punctured striæ on each, the 2nd incurvated at the base and forming a 9th abbreviated stria. Beneath black.

*In the Cabinets of the British Museum and the Author.*

*OPHONUS* is so nearly allied to the type of the genus *Harpalus* (*C. ruficornis*, Linn.), in texture and sculpture, as well as in the structure of the mouth, that it is difficult to determine whether these two groups ought to be separated, or whether by withdrawing *H. ruficornis*, and adding it to the *Ophoni*, that *Harpalus* would form a more distinct genus: we hope, however, when we arrive at the illustration of the *Harpali*, to be able to speak with more confidence upon the subject. The above two genera, with three or four others, are distinguished by the dilated tarsi of the intermediate, as well as the anterior pair of feet in the males; but the only differences in the trophi in *Ophonus* and *Harpalus* appear to be in the robust and attenuated terminal joint of the internal, and the more ovate terminal joint of the external maxillary palpi, and the slighter emargination of the mentum in the former genus.

The following is a table of our British species, and we have two or three others that may be esteemed distinct by some of the writers of the present day.

1. *O. obscurus* F.—*Sturm* 92 a.—*purpureo cæruleus* Marsh. Under stones in March and April, and on Hackney Marshes during floods.
2. *sabulicola* F.—*Sturm* 92. b.—*Panz.* 30. 4.—*azureus* Oliv. 3. t. 12. f. 135. June; near Halesworth, Suffolk, upon a bank.
3. *Germanus* L.—*Panz.* 16. 4.—*Nob.* June; Kingsbridge, Devon, and near Bristol. Dr. Leach.
4. *azureus* Ill.—*chlorophanus* *Panz.* 73. 3. August and September; Newmarket Heath: under stones near St. Lawrence, Isle of Wight; and Leith Hill near Dorking. Mr. Chant.
5. *nitidulus* Schr. *Ins. Aust.* 213. 401. From Norfolk.
6. *rupicola* Reich.—*Sturm.* pl. 94.—*subcordatus* Dej. From Norfolk.
7. *puncticollis* Payk. Gyll.—*Sturm?* 94. a.—*foraminulosus* Marsh. Common in Norfolk.
8. *eribellum* Leach MSS. August; Dover. September; Isle of Wight.
9. *angustatus* Nob. A much narrower and blacker insect than the last, and is at once distinguished by its having a very obscure channel only in the centre of the thorax.

For specimens of the plant, *Rumex pratensis* of Mertens and Koeh, we are indebted to John Lindley, Esq., who gathered them near Chiswick.





Ed. by C. Curran 2



## PATROBUS ALPINUS.

ORDER Coleoptera. FAM. Carabidæ *Lat., Leach.*

*Type of the Genus Carabus rufipes Fab.*

PATROBUS *Meg., Lat., Dej.*—*Platysma Sturm.*—*Carabus Fab., Payk., Panz.*

*Antennæ* inserted before the eyes at the base of the mandibles, filiform, pubescent excepting the 1st and 2nd joints, 11-jointed, basal joint the most robust, ovate, 2nd small, 3rd long, the remainder not longer than the 1st, excepting the terminal joint which is as long as the 3rd and conical (fig. 6).

*Labrum* transverse, sides rounded, narrowed anteriorly, the front straight and ciliated with a few bristles (1).

*Mandibles* subtrigonal, slightly bent, not very acute, having 3 irregular teeth on the internal side towards the base (2).

*Maxillæ* rather long and slender, slightly bent and acute at the apex, ciliated internally. *Palpi*; *internal* rather longer than the maxillary lobe, biarticulate, the 2nd joint curved: *external* not much longer than the labial, but more robust, 4-jointed, basal joint small, 2nd the longest and most robust, 3rd subclavate and short, 4th nearly as long as the 2nd fusiform (3).

*Mentum* transverse, not deeply emarginate, the centre producing a notched lobe. *Lip* oblong, the sides producing small *paraglossæ*, and the centre a bristle. *Palpi* attached to long distinct scapes, 3-jointed, basal joint minute, 2nd not very long, 3rd the longest and most robust, fusiform (4).

Head *subtrigonal, narrowed suddenly at the base. Eyes prominent.*

Thorax *subquadrate, sides convex, narrowed behind, the posterior angles acute. Scutellum triangular, not enveloped by the Elytra which are notched near the apex. Wings sometimes rudiments only.*

*Tibiæ spurred, anterior emarginate. Tarsi 5-jointed, anterior, with the 2 first joints dilated in the males, especially the basal one (5, a fore leg).*

ALPINUS *Nob.*

*Male* smooth, shining, castaneous. Head and thorax black with a chestnut tinge, the latter with the anterior margin punctured; a channel down the middle, deepest at the base, and a large, deep, punctured fovea on each side at the base, extending to the posterior angles. Elytra with 9 rather faint and imperfectly punctured striæ on each, the sutural one abbreviated; between the 3rd and 4th, are 3 equidistant impressed dots.

*Female* larger, paler; the elytra ochraceous, inclining to ferruginous.

Wings ample in both sexes.

*In the Author's Cabinet.*

THE Baron Dejean has placed *Patrobus* near to *Pogonus* in his Catalogue, an arrangement which I am disposed to adopt, since it appears to be natural; I am therefore totally at a loss to account for the system proposed in the "*Histoire Naturelle et Iconographique*," and the "*Familles Naturelles*," where *Patrobus* is included in a section with *Panagæus*.

The anterior tarsi of the males in *Patrobus* having only two dilated joints, it is separated by that character from many of the *Harpalidæ*; and the straight anterior margin of the labrum, the slightly emarginate mentum, the more robust second joint of the internal, and the more slender terminal joints of the external maxillary palpi, are essentially different to *Pogonus* \*.

1. *Patrobus rufipes* Fab.—*excavatus* Payk.—var. b. Panz.  
34. 2.

This insect has only the rudiments of wings, and the thorax is longer than it is broad, as shown at fig. 9. It is common in Norfolk, and Battersea Fields near London, where it is found under stones in moist situations from June to September.

2. *P. alpinus* Nob.

I have little doubt that this is the Var. *c. alatus* of Gyllenhal (*v. 1. pars 2, p. 98*), and although that learned author has recorded it as a variety only, I have considered it as distinct, for the same reasons that were given for separating *Clivina*, where the two species are characterized precisely in the same manner. Both sexes have ample wings, the thorax is broader than long, the elytra are less deeply striated and of a castaneous colour, having the appearance of immature specimens; but such was not the case, the elytra being perfectly hard when they were captured. The sexes of this rare insect, the female of which is figured, I found under a fragment of rock near the summit of Craig-calloch, one of the Dochart Hills, together with specimens of *Helobia Gyllenhalii* (Plate 103), the 21st of July 1825.

The plant, *Saxifraga hypnoides* (Moss Saxifrage), was gathered on the same mountain.

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\* In the characters of *Pogonus* the internal maxillary palpi are represented as 3-jointed, from the scape, to which they are attached, being more developed than usual; but as that part is generally obsolete, it will be better to describe them as biarticulate.





## CERURA LATIFASCIA.

The broad-barred Kitten.

ORDER Lepidoptera. FAM. Bombycidae *Lat., Leach.**Type of the Genus Bombyx vinula Linn.*CERURA *Schr., Leach, Germ.*—*Andria Hüb.*—*Harpyia Och.*—*Bombyx Linn., Fab., Hüb., Haw.**Antennæ* inserted on the crown of the head, bipectinated in both sexes, setaceous, composed of numerous transverse joints; each producing a pair of branches, much longer in the males than females, finely ciliated on the upper side with long hair in the former sex (fig. 1); with very short in the latter (2).*Maxillæ* composed of 2 short flat pubescent tuberculated filaments (3), producing a *Palpus* at the base, biarticulated? attenuated and very pilose at the apex (3 a).*Labial Palpi* small, clothed with long hair (4); 3-jointed, basal joint compressed, broad except at its origin, 2nd joint shorter, subclavate, truncated obliquely, the 3rd joint small, oval, nearly concealed in a cavity near the apex of the 2nd (4 a).

Males smaller than the females. Head rather small. Eyes large globose. Thorax not very large nor crested. Abdomen more robust in the females than in the males. Wings deflexed when at rest, entire, superior long. Legs covered with long woolly hair, middle pair the longest. Tibiæ, anterior with a long compressed, rigid lobe on the internal side attached near the base. Tarsi 5-jointed. Claws and Pulvilli small (8, a fore leg).

Caterpillars with 6 pectoral and 8 abdominal feet, the last joint not producing anal feet, but 2 long filaments between which are 2 small spines.

Pupæ inclosed in a hard case formed of small pieces of wood united by gluten.

LATIFASCIA *Nob.*

Dull white. Head and fore part of thorax cinereous, the remainder blueish-black with 2 obscure orange bands. Abdomen with the back blackish, excepting the margins of the segments, which are whitish. Wings, superior with a broad cinereous fascia variegated with orange and margined with black, extending from the costa to the anal angle, the external margin sinuated; beyond this are 2 indented and sinuated black strigæ and several spots arising from the costa and meeting at the anal angle; a sublunular cinereous spot variegated with orange near the apex; posterior margin with a row of 8 or 9 black spots and 5 or 6 next the base of the same colour; inferior with a pale fuscous band and a narrower obsolete one nearer the middle, by which is a blackish lunulate spot; margin with a row of black spots. Legs variegated with black.

*In the Author's Cabinet.*

It has been already shown that the imperfect structure of the mouth in the *Bombycidae* is a character of the family, and sometimes they are entirely destitute of those organs; it is therefore remarkable in the genus before us, that the maxillary palpi should be so perfectly developed.

The appearance of the caterpillars when at rest is frequently very grotesque, and their forked tails, a portion of which can be exerted at pleasure, very curious. The larvæ of *C. vinula* are beautiful objects, and by no means uncommon upon poplar-trees, over the polished leaves of which they weave a web imperceptible at first sight, to which the ring of hooks round their abdominal feet are most firmly attached; thereby preventing them from being blown off the leaves, and for the more important object of enabling them to burst their skins when they are about to change them.

The Puss moth is less common than the caterpillar, from a great portion of them probably falling a sacrifice to the Ichneumons, in spite of their tails, with which it is said they lash themselves to keep them off, as well as employing an acrid fluid, which they can discharge from under the head. The attitude and appearance of the moth when at rest, with its beautiful legs stretched forward, are peculiarly beautiful, as well as the texture and delicate colour of the wings.

The following are British species :

1. *C. vinula* Linn.—Sepp. *Neder. Ins. tab. 5. f. 1—11.*—Don. 3. pl. 85. May. Willows and poplars.
2. *erminea* Hüb.—Esper. 3. *tab. 19. f. 1, 2. tab. 78. f. 4.* Larva.—t. 79. f. 6. a. b. Eggs. The true species has very different markings in the upper wings to those of *C. vinula*, and the under wings of the female are white, and the body with large black marks.
3. *bicuspis* Hüb. *Bomb. tab. 10. f. 36. fem.* July. Birch-trees, Darent Wood, Kent.
4. *bifida* Hüb.—Esper. 3. *tab. 19. f. 6, 7.*—*fuscinula* Hüb. var. June. Poplars, Darent Wood.
5. *Furcula* Linn.—Sepp. *Neder. Ins. tab. 6. f. 1—8.* e. July. Palings, and great round-leaved Sallow.
6. *latifascia* Nob. The caterpillar of this insect I found in September, feeding upon a narrow-leaved Sallow, that hung over a rapid stream near Linton, North Devon, and it produced a female moth the middle of the following May. It approaches nearest to *C. Furcula*, especially in the black bands across the abdomen; but the great breadth of the fascia, with its sinuated margin, extending to the anal angle of the wing, has rendered it necessary to distinguish it as a species.

The plant is *Geum rivale* (Water Avens).





*Wasp legs* Curtis 2<sup>nd</sup> ed. 1827



## CLEONYMUS MACULIPENNIS.

ORDER Hymenoptera. FAM. Cynipidæ *Lat., Leach.**Type of the Genus Diplolepis depressa Fab.*CLEONYMUS *Lat.*—Cynips *Lat.*—Pteromalus *Dal.*—Diplolepis *Fab.*  
—Ichneumon *Linn., Fab.*

*Antennæ* inserted in the middle of the face, longer than the head, geniculated; 13-jointed and filiform in the *male*, basal joint very long and stout, 2nd small, 3rd and 4th ring-shaped, 5th and remainder submembranous pilose, cup-shaped, the 3 last forming a conical mass, (fig. 1): 12-jointed in the *female*, thickened towards the apex, the 3rd being the shortest, the 5th nearly as long as the 4th, the remainder of equal length, the last being longer and conical (1 a).

*Labrum* none?

*Mandibles* alike, subtrigonal, notched on the internal side, and having 3 teeth near the apex (3).

*Maxillæ* long, terminated by a lobe rigid and ciliated externally, dilated and membranous internally. *Palpi* rather short, 4-jointed, basal joint small, 2nd and 3rd longer of equal length, 4th twice as long and hatchet-shaped, truncated obliquely and pilose (4).

*Mentum* oblong. *Palpi* arising from cavities in the anterior margin of the mentum, short, 3-jointed, 2nd joint minute, 3rd oval pilose. *Lip* short, rounded (5).

Head orbicular and convex in front; transverse above. Eyes small. Ocelli 3, in a depressed triangle. Prothorax bilobed, narrower than the remainder. Scutellum rounded. Abdomen sessile obconic, depressed in the males, elongated in the females with a long channel beneath to receive the ovipositor, (6 a, the base). Wings longer than the body in the males, transparent, often spotted or clouded, pubescent, ciliated; superior with a nervure running from the base parallel to the costa, half way, whence it is continued along that margin a short space and then becomes furcate. Legs slender, posterior pair appearing very far behind, from the great length of the Coxæ. Thighs, middle pair slender, posterior incrassated. Tibiæ simple. Tarsi 5-jointed, basal joint the longest. Claws hooked. Pulvilli distinct (8, a fore leg).

Obs. The dissections are from a male of *C. maculipennis*; the abdomen and antenna (6 and 1 a) from a female *C. depressus*?

MACULIPENNIS *Nob.*

*Male* green with a cupreous tinge. *Antennæ* very pubescent, brown, 1st and 2nd joints ochraceous. Head and thorax thickly punctured. Abdomen perfectly smooth and shining, a deep channel in the middle from the base, where it is ochraceous, the shoulders being elevated and green, the apex pubescent, black with a cupreous shade. Wings iridescent, the superior with 2 large black spots on each, one in the centre, the other nearer the apex. Legs ochreous. Thighs, posterior very robust.

*In the Cabinets of Mr. Cooper and the Author.*

THE trophi of *Cleonymus* are so very similar to those of *Colax*, that we should not have established the latter genus had not other characters presented themselves: it is true that the mandibles of the former are stronger and have but two distinct teeth, and the terminal joint of the maxillary palpi is shorter and more dilated; but on comparing the males of the two genera, more decided characters will be found to distinguish them, and such we trust as will fully justify their separation. The males of *Colax* are marked by a very large head, a ring-shaped prothorax, an obovate abdomen and slender thighs; the same sex of *Cleonymus* has a moderately-sized head, a bilobed prothorax, an obconic and thick abdomen, and robust anterior and incrassated posterior thighs. We regret that the want of female specimens has prevented us from perfecting our specific descriptions, as well as from entering into a further investigation of that sex, than to observe that the abdomen is longer, more depressed and less compressed and angulated beneath than in the genus *Colax*, and that the female antennæ (at least in the specimens before us) are thickened gradually to the apex; they have not the ring-shaped third joint which that genus has, nor do the three last joints form a distinct mass.

So completely have these insects been neglected, that very few species of *Cleonymi* have been described, and only one that I can find figured. It is most likely that the genus is very extensive; but my own cabinet contains only seven species, all of which are females, excepting the one figured in our Plate.

1. *C. depressus* Fab.—Coq. *Illus. Ins. tab. 5. f. 5.*
2. *maculipennis* Nob.

For specimens of this beautiful insect, which appears to be a nondescript, I have to acknowledge my obligations to A. Cooper, Esq., who took four males the latter end of June, on the trunk of a decayed Elm near Knight's Hill Cottage, Dulwich.

The plant is a tetrandrous variety of *Euonymus europæus* (Spindle-tree).





